

IMMANUEL KANT

BY HOUSTON STEWART CHAMBERLAIN
FOUNDATIONS OF THE NINETEENTH CENTURY. Translated from the German by JOHN LEES.
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IMMANUEL KANT

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IMMANUEL KANT

A STUDY, AND A COMPARISON
WITH GOETHE, LEONARDO DA VINCI,
BRUNO, PLATO AND DESCARTES BY
HOUSTON STEWART CHAMBERLAIN
AUTHORISED TRANSLATION
FROM THE GERMAN BY
LORD REDESDALE, G.C.V.O., K.C.B.
WITH AN INTRODUCTION BY THE
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IMMANUEL KANT *Frontispiece*

From the painting by Döbler in the Todtenkopflage at Königsberg,
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Company.

PLATO *Face p. 3*

(Three Greek Gems in the British Museum).

IMMANUEL KANT

PLATO
WITH AN EXCURSUS ON THE ESSENCE
OF LIFE

From the Gods a gift to the human
race ; thus should I reckon the gift
of seeing the one in the many.

Plato.



PLATO
Three Greek gems in the British Museum

PLATO

AT last the threads that we have been spinning in our previous lectures run together into warp and woof. I had to start with the Goethe lecture in order to speak of "ideas," so that my meaning should be perceived: without the Leonardo lecture,—in which I endeavoured to draw an accurate distinction between that which is "pure" and that which is "empirical," and consequently between mathematical natural science, and artistic intuition of nature, I could hardly have attained a consideration of the true Plato, in the face of so many deeply rooted misunderstandings which had to be swept away: the Descartes lecture is adapted to lay the foundation of the present lecture, as teaching the importance of the dualistic method of observation for all criticism of the human intellect, of which it, at the same time, furnishes you with a plastic conception; finally, the Bruno lecture has laid down once for all the difference between dogmatism and criticism, so that we know where to seek for Plato and where not.

Towards the close of the lecture, when we shall know Plato better, we shall return to these heroes of our earlier lectures: for the moment I must content myself with these brief hints, only calling your attention to a special relation between the different lectures in order that you may from the very outset correctly grasp the distinguishing feature of the goal in view.

It will have struck you that we have made very varying use of the personalities which we have brought

PLATO

forward for our purposes of comparison. In the Goethe lecture it was the personality itself, with its physical properties reaching into the very volutes of the brain, that we placed in contrast with the Sage of Königsberg and his individual capacities: Leonardo, on the contrary, possessed for our purpose rather a general than an individual importance, and helped us to fix more exactly the points that Kant has in common with Goethe, as well as those in which their modes of perception differ. In Descartes it was once more the personality which held us, but not so much, as in Goethe, by way of contrast or in opposition to that of Kant, but because it opened up for us an access to the labyrinthine depths of Kantian thought, —while, on the other hand, Bruno served as the sharply stamped type of a numerous tribe of thinkers who stand as the very antipodes of Kant. Now we must introduce the lens by which we may collect these various rays and focus them upon the burning point of our interest, Immanuel Kant. For in Plato we, for the first time, meet a man whose genius and whose "mode of seeing," inborn and developed to perfection through a whole life of incessant thinking, are almost exactly in harmony with Kant. If we had singled out Plato earlier, we should not rightly have understood him: all that we have in the meanwhile done for Kant is equally of value in his case; but if we were to leave him out now I should despair of being able to add the indispensable sharpness of outline to the plastic picture of Kant's intellectual personality, of which the general features should now be clearly before you. Plato alone can serve this end. With reference to the great central fact, namely the awakening of the human intellect to critical consideration of itself, the two men are identical: Kant occupies the same relation to Plato as Copernicus did to Aristarchus: yet at the same time, as you will presently see more exactly, they stand in relation to one another as two

PLATO

and separates two tendencies. It is the same thing, the seen from opposite sides like the obverse and reverse of a medal. Where Kant with great pains develops a final abstraction which few only are capable of attaining, Plato boldly gives a picture which may be grasped palpably; whereas for Kant all criticism of reason leads to negation and limitation, Plato presents it in principle in the shape of an affirmative and limitless recognition. Of course, on that very account, Plato has in all ages been even more misunderstood than Kant; but we need not trouble ourselves here about the organic incompetence of many, even gifted men, to understand Plato, and you no doubt guess what an important revelation it must be to be able to see this critical intellectual disposition and its effects from both sides, from the obverse and from the reverse; from the conventional individual it seems as remote as the conception of the earth's motion. Every step which we take in the understanding of Plato is a direct help to the understanding of Kant; in order to put matters right we shall have later, as it were, to turn the medal round here and there, but that will cost little trouble; the only difficulty lies in grasping the central, creative thought which is common to Plato and Kant, and which springs from their personal method of seeing: we shall succeed more easily with Plato than with Kant.

So much by way of preliminary explanation.

Here, as in the Goethe lecture, it will be advisable to attack the comparison from outside. In great men the outer fits the inner, and their character is more exactly mirrored in their face than in the case with others. What I indicated above as the tendency of the one man to *know* and of the other to *see*, is most indeed in their physical form. Kant is a small, weakly man with a slender chest, who, thanks to his moderation and an almost anxious carefulness, was able to reach an advanced old age in tolerable health. Plato, on the contrary,

whose real name was Aristoteles, earned the surname of *Platon* in the wrestling school, on account of his extraordinary size and strength. That this nickname of the ring should have stuck to the man for all time, and have supplanted his true name, testifies to the admiration in which his rare, handsome figure was unanimously held by the world. He was not only big and strong; even his enemies, and he had many, praise his beauty, his symmetry, his height. That a Greek of such powerful build should over and over again have appeared in the public athletic competitions, and more than once have gained the wreath of victory, will not astonish you, even though it should be little in harmony with our present idea of the career of a philosopher. He seems to have taken part as a cavalry officer in several campaigns, furnishing his men and horses at his own expense. For in addition to his bodily advantages Plato was also favoured by birth. Kant, the son of a poor saddler in a small provincial town, passes two-thirds of his life in very necessitous circumstances; even as a student he was compelled to earn his bread by giving lessons, and it was only by painfully self-sacrificing economy and daily self-denial that towards the close of his life he was able to realise a modest independence. Plato, on the contrary, belongs by birth to the great and wealthy nobility of the headquarters of culture in the world of those days, and traces his pedigree both on his father's and on his mother's side to kingly ancestors: from these exalted forebears he inherits wide estates administered by honest slaves: he knows nothing of care for daily bread, or of any business or professional duties: never in his life has he been under any constraint for a single day: he travels whither he chooses and comes home when it pleases him; he is without wants so far as material enjoyment is concerned, because it is his pleasure to take independence of wants as a philosophical maxim of life, and yet he is no

ascetic, for he himself teaches that we should neither starve nor satiate bodily desire (τὸ ἐπιθυμητικόν), nor does he deny himself the comforts of life surrounded by beautiful works of art and parchments: in his own house and garden he teaches those who love wisdom (philosophers), but for the sake of the Muses, that is to say, without any fee. Kant, as you will remember from our first lecture, never left Königsberg and its immediate neighbourhood: Plato travelled in Egypt, in North Africa and Italy, and several times visited Sicily as the guest of the Prince of Syracuse. Last, but not least, where the one from his cradle to his grave had the grey Baltic the other had the blue Mediterranean, the sun, a lush and balmy vegetation, everything that can inspire the senses and make them fruitful. And whilst Kant towards the end of his life fell into a sort of senile atrophy, was compelled to give up all public activity, no longer left his house, and ended by losing perfect mastery of speech, we hear of Plato, who, like Kant, lived exactly to the age of eighty, that to his last day he taught and wrote (*scribens mortuus est*, says Cicero), and the unanimous testimony of his contemporaries asserts that it was at a wedding feast which he honoured by his presence, that he unexpectedly, suddenly, but softly and smilingly fell asleep.

How different were the fates of the two thinkers! Plato's nature and fortune so differently shaped, corresponded naturally with a different temperament and in many ways different gifts. Most especially remarkable in this connection, and as a contrast to Kant, is the passionate longing of the heart, and the lofty poetical flight.

You must not believe that a man gifted as Kant was, a man out of whose eye, "formed by the æther of heaven," a "ray of fire beamed," did not carry love and passion in his heart. Women liked him: he was no misogynist:

even in his old age he invited pretty maidens to be his neighbours at table :¹ perhaps we should have known more upon this subject had not his bashful gentle feelings caused him anxiously to avoid it ; never even to his most intimate friends did he ever speak of love. Still, the attentive reader will find here and there in his writings passages which yield a deep insight into a heart loving and needing love, but almost over-sensitive. The following, for instance, can only have been taught him by his own original experience, " a very refined taste serves, it is true, to rob a passionate inclination of its wildness, and since it confines it to very few objects, to make it modest and mannerly : but it generally misses the great ultimate purpose of nature, and since it demands or expects more than this as a rule affords, so it very seldom makes a person of such delicate sensibility happy. . . . Thence comes procrastination and, finally, complete renunciation of matrimonial ties " : the following passage is also worthy of remark in this connection : " many a man is prized too high for love to be possible. He inspires admiration ; but he is too far above us for us to dare to approach him with the intimacy of love."² Here again, as you see, the negative outweighs all else : what Kant feels the most clearly is the unattainable in love,—it is only its " delicate magic " that he feels, whereas at other times he fails to discover much more in it than a silly and coarse sensation. Out of this hesitating, gloomy, over-delicate temperament comes the want of those creative powers which are of one essence with the creative love-power. As an old professor Kant did indeed compose a few lame, dull verses in honour of dead colleagues : custom so willed it. He would certainly not have wished that such occasional twaddle should be torn from the oblivion into which it fell on the day of its birth ; but nowhere do we detect in him anything which would betray any artistic impulse, inclination or, even

interest. Do not imagine that I am regretting that this great thinker has not, outside of his philosophical writings, left us a legacy of bad epics or pastoral songs : I am only concerned with the analysis of his intellect, and I think that I may safely affirm that when a man is lacking in all passion of the senses and in any trace of giftedness in art, whether poetry or music or plastic art,—he will also give evidence of characteristic shortcomings in his creative power in other domains, though they may be patently remote. Plato shall serve as my authority—Plato who holds the power of production of the soul to be identical in its essence with the power of production of the body (*Symposium*, 208 E–209 A), and who therefore extols the “delusion of love” as the richest gift of happiness (*εὐτυχία*) from the Gods to men (*Phædrus*, 245 B), and therefore warns us against allowing ourselves to be persuaded by fine speeches into the belief that the dry pedant is in all cases to be preferred to the inspired and ecstatic man ; rather is (*μανία*) delusion born of the gods, while mere understanding (*σωφροσύνη*) is only a human virtue (*Phædrus*, 244 D). “The man who thinks that he can become an artist by Art alone, without having been gripped by the frenzy of the Muses (*μανία Μουσῶν*), will always remain outside before the door, and the work of this intelligent person will remain as a shadow beside that of the man who is torn by frenzy.” Frenzy of love, frenzy of the Muses :³ the two, according to Plato, constitute the high school of Seeing, and also of recognition : for recognition essentially consists in a “Seeing of scattered impressions combined into one visible shape.”⁴ Rightly then has the English scholar and refined poet, Walter Pater, pointed to the passion of love as the central point of Plato’s character. “Plato is by nature and before all things, from first to last, unalterably a lover ; and as love must of necessity deal above all with visible persons, this discipline of love (*τὰ ἐρωτικά*

as he says) involved an exquisite culture of the senses."⁵ *That love and seeing hang together Plato over and over again maintains, in the Symposium, the Phædrus, and also elsewhere—and from this fact spring two admirable peculiarities which amongst all philosophical writings are only to be found in Plato; the first of these is that Plato breathes personality into all thoughts: the second is that his art,—which sees the most delicate colouring and the darkest shadows of things, accompanied by the mastery which embodies in a word-picture the most fleeting vision, enables him to handle, as if it had been seen, the invisible, that which is hardly even attainable by thought, so that we think that our own eyes must see it, if not to-day, at any rate, to-morrow.*⁶ Love, love which is one with the *Μανία Μουσῶν*, the frenzy of Art, is in Plato's estimation the indispensable first rung of the ladder in all wisdom; man must first recognise as beautiful one visible form and by it be kindled to love, then must come another, and yet another, until the single beauty pales in his eyes as something relatively incomplete, and so he must rise higher and higher, "as it were step by step" (*ὥσπερ ἐπαναβαθμοῖς*), until his heart has become broad enough and strong enough to embrace all beautiful forms with love; out of this artistic glow there arises at last a true knowledge (*μάθημα*) of Things, and out of this again the recognition of that which beauty is in itself (*αὐτὸ ὃ ἔστι καλόν*); and when the man has climbed to this lofty stage, then a God seizes him by the hand and leads him to where "he sees something of the truth," where he begins to have a premonition "of the true essence of Being," as though the recollection of it rose out of an old, long since vanished dream. "Here at last, oh! beloved Socrates, life becomes worth living."

You see what a different sphere of perception we have reached. It is true that Plato, who had started in life as a writer of dithyrambics and a tragic poet, very soon

destroyed all the children of his Muse : for it was in *early youth that he met Socrates, and his passionate ardour and artistic inspiration were turned in other directions* : the victorious athlete, the stage poet who had already handed in his trilogy to the judges, felt his true vocation : he was to think for the benefit of decades of centuries, he was to be the great teacher of self-introspection. But the fiery glow remained ; that alone enabled him to throw off the dreams of his youth, and to seize upon the calling of his manhood with such passionate determination. The fire which he no longer wasted upon beloved individuals, and the "frenzy of the Muses" which he no longer allowed to seduce him to the creations of phantasy, passed with all its power into his philosophical life's-work, and in it sowed the seed of immortality.

Christian misunderstandings of many centuries, and the lifeless schematisations of our professional teachers, have led us moderns to consider Plato as a sort of despiser of the senses, as a world-shunning ascetic, and as the inventor of an unnatural, negative species of love mis-called "platonian" ; the ancients, on the contrary, treated him with a wonderful and unique honour, by identifying him with Dionysus (Bacchus), the god of wine, of intoxication, of fatherhood, of growth. An ideal likeness in which the representation of the divinity was blended with the portrait of the philosopher, known as the *Dionysoplato*, as statue, gem, or intaglio, was common in all countries into which Hellenic culture had penetrated. Heinrich von Stein wrote finely about it,—“ Oh ! happy Hellenes, that it was possible for you to win for yourselves such a man from the essence of life, to allow this eye full of knowledge, smiling, to rest upon Things ! The Greek artist, to express all this, portrayed a handsome drunken man : inspired by noble wine, half tired, half pensive, his head and his glance droop. . . . The artist portrayed

him, the drunken man, as beautiful, and at the same time august."⁸ Plato in his philosophical writings more than once did honour to wine; as an old man full of days he praises it as a "balsam" which Dionysus gave to men "against the bitterness of years in order that the old might forget their tears and win back their lost youth"; yet all this would not suffice to arouse in the consciousness of the people such a striking representation as this combination of *Plato-Dionysus*; for wine has also been praised by many others, and indeed in songs which were sung everywhere, but the *Symposium* and the *Laws* can only have been known to a limited number of daring thinkers. Such things always take root in the direct impression which the living personality presents, and in the sure instinct which enables the impersonal multitude to recognise the essential in great personalities, together with the talent of concentrating their feeling into a picture.

What chiefly characterises Plato is his creative power: Aristotle goes against his master almost word for word, and yet the whole of Aristotle, that is to say, every single creative thought of Aristotle, is contained in Plato and taken from Plato: that can now be irrefutably proved; that the long series of the anti-Aristotelian neo-Platonists equally have their whole being in Plato, and weave their systems out of single threads torn from him,—is a matter upon which it is not necessary to dwell. But this creative power is far more important and active, where it has been at work for more than two thousand years, unrecognised and without the author's name. For Plato is not only the fountain-head of almost all European philosophers of the most various tendencies: he is not only the man who first made method in thinking and investigation possible, and the inventor of a conception of logic and mathematics reaching so far beyond the Aristotelian scheme that we are only now beginning to understand his pre-

monitions in the light of the higher mathematics ;⁹ he is not merely so masterful an inventor in the art of speech, that to this day we could not dispense with the conceptions first coined by him of Idea, System, Theory, Hypothesis, Method, Problem, Phantasy, Diagnosis, Analogy, Criterium, Anomaly, and a hundred others (not to mention many admirable words which unfortunately have not yet passed into our language) ;¹⁰ but Plato, not Aristotle, is also the true founder of natural science : he taught us to SEE, he taught us to group forms in genera and to distinguish them as species,—not that he carried out the practical development of this, but the thought itself of the grouping and the distinguishing is his, it is his invention ; and this invention could only have been the work of one who at every point recognised invention in the human intellect as the peculiar function of that organism.

I can say no more at present. Few people suspect how much we are indebted to the creative power of Plato : by the time we reach the end of this lecture we shall have gone deeper into the question. Here was great inventive and creative power, nameless, seldom to be grasped with hands, everywhere fertilising the intellect, fighting the whole jumble of paragraphs and rubrics, but in every place eloquent or silent as might serve the case : and it was this power which made the people recognise and honour a Dionysian nature in Plato. We of later generations have only the writings, they knew the man himself by experience. “ It is silly,” says Plato, “ to believe that we can leave anything behind us in writings, or take in anything in writings. The living word alone is inspired with soul, the written word is only its shadowed image” (*Phædrus*, 275 C, 276 A). How creative must Plato’s living presence have been ! “ Love, oh Socrates, is not, as thou fanciest, only the love for a beautiful form, but love is above all the love of a form to be newly

created out of the beautiful. For the mortal being conceals an immortal part: the power to create; and so all love makes for immortality. Some, that they may be immortal, rear up children; others whose creative power lies more in the soul than in the body, create works of the intellect, and so become creators of thoughts, of poems, and of every art which springs out of invention" (*Symposium*, 206-9). How positive and how productive all this is! Love for the beautiful is the road to wisdom: creation in the beautiful is the road to immortality. The works of the intellect are only such as are created by love and strength, only those in which creative invention has been the informing power.

The contradistinction to Immanuel Kant is patent; it would be a pity to make it more sharply evident by further insistence. But here we are in the same position as we were in the contrast between Kant and Goethe. At first everything seemed very simple and clear: Goethe all eye, Kant devoid of eye,—Goethe all perception, Kant all abstraction: then it dawned upon us that this first impression, though founded on irrefutable truths, was still superficial. Yet the human soul is apt to be a very complicated affair, and it is just those features which lie half hidden in the depths, the features which the man who merely vouchsafes a glance in passing does not see, which lend to a personality its special and individual character. You will remember that Kant possessed a pre-eminent, if at the same time quite peculiar, power of perception, and the unexpected inference would be that his theoretical views with reference to nature are palpably perceptible, whereas Goethe's remain hovering between that which is seen and that which is thought. Later on we had many opportunities of laying stress upon the great significance of perception in Kant—even in his critique of recognition; we recognise him as the declared enemy of all purely abstract thought

which turns its back upon perception. Just so you may now look upon Plato—the man intoxicated with beauty, the man caught by the Dionysian frenzy of creation,—not simply as a contrast to and contradiction of Kant. I have already brought out the fact that in many things he stands very near to Kant, and I shall at once dwell further upon that ; but I think that you will gain no small advantage, if precisely here, where Plato appears as the antipodes of Kant, you are stimulated through this very Plato to search after features in Kant which might otherwise have remained hidden. Here is the opportunity to use Plato as a magnifying glass. To be sure, the bitterest satire would never draw a comparison between Kant and Dionysus : but we may ask ourselves honestly, was there ever a Teuton in modern times for whom we could claim such a comparison ? Even in the popular figure of speech, Apollo-Goethe, there is something which smacks of ridicule. Where there is a distinct boundary-line between two cultures we gain nothing by arbitrarily wiping it out. On the other hand, Kant, if not like Plato an aristocrat and slave-owner, but the simple son of a saddler, is a pattern of the gentlest, proudest, most tactful distinction : in his truthfulness,—in his inviolable pride which defies even the anger of a king,—in his modesty of life and thought,—in his strictness with himself,—in the contentedness which only covets the freedom of the soul,—a new ideal rises before us : it is for us to do honour to such a man as fittingly as the Greeks did to Plato, and that means with just as startlingly bold a look through the outer shell into the inmost being. It was in trifles that the passionateness of Kant's nature, otherwise so well kept in check, betrayed itself. Read with care the accounts of his contemporaries, especially Wasianski's incomparable little book : Kant could not bear people who ate and drank little, he never invited them a second time : he was of indescribable impatience if the servant

did not bring what was wanted at once: if he charged a friend with a commission, "yes" for an answer was not enough: it must be "certainly, at once," and then Kant would express his thanks with "oh! that is delightful": he only liked blatant military music, and was impatient because on one occasion at a funeral celebration dirges had been introduced, for he held that in such circumstances heroic sounds should proclaim what is an accomplishment, and the victory over death: in the helpless weakness of his old age he was once, as he sat alone in his room, startled by a thief, but rushed at him with such violence that the thief took to his heels. Kant was in no wise taciturn and gloomy, but, on the contrary, gay and conversational: Schiller, in a letter to Goethe, rightly called him a gay and jovial spirit. A witness above all suspicion, Herder, his bitter opponent who had been his pupil from 1762 to 1764, writes of him. "Kant had the frolicsome merriment of a youngster—his open brow built for thinking was the seat of gaiety, and the most agreeable talk, most rich in thought flowed from his chatty mouth. Fun and wit and humour were at his command . . . his public lecture was like a delightful entertainment."¹¹ Jachmann, who knew Kant twenty years later, tells us that "in society he was sometimes so attractively amusing and witty, that his words were like flashes of lightning playing in the cloudless sky." And the man who of all others had the longest and most intimate intercourse with Kant, Motherby, a dry English merchant, said that Kant would often speak *en petit comité* as if he were "inspired by some heavenly power," and that by this power of the spoken word he "bound all hearts to him for ever." Behind the Kant, as the world of to-day sees him, there stands another Kant whom we have all of us hitherto ignored; think of Kant born by a chance of fate in other surroundings and other circumstances of fortune—something like those of Plato;

*his character would have come to the front with far greater freedom and simplicity. I look upon Kant's much talked of exaggerated pedantic punctilio as a reaction of the Will against temperament. Compulsion is the prominent character of our modern social civilisation: the man who feels a powerful need for soul-freedom will often grasp at the isolating means of an iron self-conquest, of a spasmodic contraction of self; he will meet compulsion with compulsion. We shall even, on closer observation, discover in Kant the glow of inspiration, the "delusion," which meant to Plato the first step of every true recognition, however much Kant may defend himself against it in his writings, ever declaring his mistrust of all such enthusiasm. Wasianski, for instance, tells the following story. One cool summer when there were few insects about, Kant had several times seen young unfledged swallows lying dead on the ground; astounded at the recurrence of this, he watched carefully, and became aware that it was the parent birds, who, seeing that the means of nourishment would be insufficient for the whole brood, condemned a certain number to death and so made certain of adequate vigour for the others. "Full of amazement, Kant said: 'My imagination stood still; there was nothing left for it but to fall down and worship.' The lofty reverence that glowed in his noble face, the tone of the voice, the folding of his hands, the enthusiasm which accompanied these words,—it was all unique."¹² That was no dry mechanical view of nature, and so far as the conception of the moral being of man is concerned, Kant in his fortieth year declared in an unfortunately little noticed writing, *Versuch über die Krankheiten des Kopfes* (enquiry into the diseases of the brain): "Never has anything been accomplished in the world without enthusiasm." So soon as your hearing shall have been sharpened for the purpose, you will hear that rustle of the wings without*

which no man since Plato has been able to soar up into the true love of wisdom, and to no one more than to Kant are those words applicable which Plato adds in the same passage: "the masses do not see that the philosopher is inspired."¹³

Here is the place to add a few words about Kant's style and speech.

Kant is not, like Plato, a poet: he does not start with dithyrambic odes and tragedies, and the sense of the drama and the picturesque which distinguished Plato to the end are for ever wanting in him. Rarely indeed does his language rise to pathetic tones and oratorical brilliancy; it hardly ever happens except where Duty is the subject of his talk: here indeed we feel the passionate heart-beat, but hardly anywhere else. The observation of the similes which he employs leads us nearer to the personal advantages of the Kantian style: these are for the most part original, and have such a special force of perceptibility that they pour a flood of light on very remote tracts of thought; you need only think of the *focus imaginarius* in our first lecture, and on the sphere of the world in our third; images chosen with equal happiness crop up in him at every moment. But what constitutes the prominent peculiarity of his style is clearness. I am well aware that many deeply learned men and many sensitive souls will shrug their shoulders at the assertion that Kant wrote with exceptional clearness; I am content with Goethe's judgment as warranting my own personal feeling; "nothing is so clear as Kant," he remarked to Cousin, and in conversation with Schopenhauer he remarked, "when I read a page of Kant I feel as if I were stepping into a brilliant room."¹⁴ Here we are dealing with something special: but I am at a loss to know how to describe it otherwise than by merely pointing to Goethe's word,—“a brilliant room.” Goethe does not say a beautifully built room, or a finely decorated room,

he says, "a brilliant room,"—a room in which one sees clearly. Kant's style is indeed a pure white light without colour, and as such it faithfully mirrors back the personality; *le style est l'homme même*. A Schopenhauer has all the colours on his palette; his philosophy is a painting; Kant, on the contrary, sets before himself almost exactly the same aim as the author of a book on Physics; to represent the phenomena simply and without circumlocution, to analyse them, to reveal their laws, to show the systematic connection. In what is it that the learned physicist excels the uninstructed layman? Essentially that he observes better what takes place in nature, and sees it more correctly: he sees more, he sees more keenly, and inasmuch as he sees combinations that another does not suspect, he arrives at something which we should be justified in calling "enchanted Seeing." Precisely the same are Kant's method and Kant's aim. Rhetoric inspires him with distrust: "eloquence," he says, "is an art of cheating by a beautiful sham"; it diminishes "the freedom of judgment";¹⁵ in the same way he warns us that it is impermissible "on all sides to put perception in the place of the ordered reflection of the understanding and reason," that leads to fanaticism, and this method, even when treated by genius, "is lacking in the dryness, and watchfulness, and cold-bloodedness of the power of judgment." There you have the programme of his style chosen with true circumspection:—dry, watchful, cold-blooded. It is the same as with life: self-mastery, self-compression. Such a programme means a fundamental resignation of all attempt at producing artistic form: even should the *mania* of Plato have a home in the heart of the thinker, it still must have no voice. Yet in the hands of genius these principles of style, though united with great and undeniable shortcomings, result in two important properties: a synoptical structure of the Whole,—sharp, un-

questionable simplicity of meaning in Detail: and out of these two properties there arises that rare and special clearness which Goethe found to be the characteristic of Kant's writings, and that "living manner of expression" which Jacob Grimm extolled in them. Here it is that the properties of style project beyond speech. People might fight, hate, anathematise, misunderstand Kant's philosophy, but there was no escape from its architectonic omnipotence; to-day all men of culture, even those who know no word of German, philosophise in the conceptions which Kant either coined or converted, and in the schemes which he created. And you will surely admit that such architectonic power is that of a creator, and one nearly related to that of the poet, at any rate as the Greeks understood the word *poietai*; it belongs to that which Plato called a procreation of thoughts, of poems, and of all art. In the art of architectonics, Kant masterfully overtops the Greek critic of recognition; here it is He that is the poet, and indeed one of the greatest.

But a stately building needs finely worked ashlar, and the clearness of which Goethe speaks could never have been achieved had not Kant been at the same time in his own fashion a master of the word. I purposely say the word, not the sentence; for in Kant the sentence is mostly clumsy and not seldom ugly: but in the use of words, on the contrary, Kant is as great a master as he is in the arrangement of the whole. Here Kant and Plato meet again; both belong to the really great, epoch-making Lords of Language. In his *Geschichte der Philosophischen Terminologie* (p. 141), Eucken says, "Here, in Kant, there is such essentially new creation, that all that follows him must start from what he has achieved." It is worth while in this connection to observe Plato and Kant at work.

Plato reflects much upon the essence of language: he will not indeed content himself with the myth of a divine

origin, for that he considers would be a subterfuge like the *Deus ex machina* of the tragic poets; yet this instrument of thought must remain sacred and unfathomable (cf. *Kratylos*, 425). On one occasion he warns us against "the habit which people have of using words now in one sense and now in another, causing in this way the most manifold confusion," and yet a few pages further on he lifts his voice no less impressively against the "too precise definition of the meanings of words," for the man who attempts that becomes "the slavish subject of the word" (*ἀνελεύθερος*), whereas in the use of language a noble freedom is appropriate. Even so he does not invent words out of his inner consciousness, but he breathes a new life into known and much-used words. This is a symbolical proceeding, which means a proceeding born of the spirit of language, since all language is at the outset symbolical. One circle works itself round another without the centre being moved. Take, for instance, the word *hypo-thesis*. Up to Plato's time it had meant, something placed under, something that carried, a support, a pedestal: now it means the acceptance from which the contemplative mind starts, whether it be to co-ordinate the visible phenomena of nature, or whether it be to soar until it finds beyond nature something transcendent and unconditioned, that is to say, needing no further explanation, the *anhypothetic* as Plato calls it. Here we have communicated to us a newly discovered fact of the intellect: in this one word a whole philosophical system is conceived by implication; for it had never occurred to any thinker in Greece that we men could either reach "downwards" to nature or "upwards" to the conceptions of reason, without making some preconceived assumption, without establishing a support, which should serve in Plato's words as "a step and a spring-board." Here we stand in the midst of a deep critique of recognition,—how deep you may gather from the fact

that Plato also holds up Ideas as hypotheses which a man must "each time take as a basis,"—*ὑποθέμενος ἐκάστοτε λόγον*—from which his thoughts may range upwards and downwards (*Phædo*, 100 A and 101 D). So plastic are Plato's words, so inexhaustibly rich in suggestion! From every one of the philosophical expressions introduced by him, modestly founded on colloquial language, thoughts radiate as it were in all directions, and the man who has assimilated the most important of these expressions livingly, that is to say, in the "noble freedom" of a personal and many-sided being,—that man really possesses Plato in all fullness; the words are not dumb signposts, they are the way itself, hewn out of the primeval forest by Genius. If, however, to complete the picture, you wish to have some experience of the opposite of what you have seen here, that is to say, the poverty of language, take up Aristotle, who defines hypothesis as an uncertain acceptance in contradistinction to a certain one! The fact discovered by critical reflection, that every human thought-structure, whether in relation to the empirical world or to the world of pure thought, rests upon supports which we must take as basis,—this fact falls to the ground, and fades from our sight; Aristotle, that admirable but uncritical brain, of whom Natorp, the best living authority, dared to say that he must have misunderstood Plato in every single statement,¹⁶—never knew or suspected what "hypothesis" meant for Plato; indeed, no one can know it unless, like the mountaineer in our last lecture, he has climbed high enough, and then turned round: and so in Aristotle's hands all those glorious words were paled into abstractions, in which shape they have mostly come down to us. Kant, however, is a worthy follower of Plato; he takes endless care in the choice of his words: he breathes new life into them and indeed takes pains to preserve images that have already been coined in philosophy, but which "are lost under

the heap of others of widely different significance," so that it easily happens that "the very thought is lost which they alone could have preserved." Kant has a lively sense of the advantages of his mother-tongue. "The German language is the only one among the living learned languages which has a purity that is peculiar to it. All foreign words are always to be recognised in it, . . . and so it is worth while to pay attention to it . . . foreign words betray either poverty which ought to be concealed, or carelessness." Still, Kant stands under the law of that destiny which is common to us all and of which a Plato in his sunny Greece knew nothing: in order to be understood, Kant, in his metaphysical writings, had to borrow two-thirds of the technical expressions for his new thoughts from dead languages, he had, as he himself complains, to clothe his clear German thoughts in "barbarous expressions," failing which the German scholars would neither have guessed his meaning nor even have read his books! Dearly, indeed, do nations pay for their mistakes! In a draft letter written in his seventieth year Kant complains to G. Chr. Lichtenberg that "he never was able to escape from the scholastic want of taste," and promises "in his next works of this nature to consider the possibility of adding to their nomenclature other words more accessible to the powers of comprehension of ordinary folk."¹⁷ But the "critiques" had already been published; and since we linguistic barbarians did not sufficiently heed the charm and exactitude of Kant's choice and use of words, the master had to complain that "many a one of my parrot-followers uses words with which he connects no sense . . . they often make me speak a gibberish that I do not myself understand." In order then rightly to judge Kant's linguistic art, we must remember that he inherited the burthen of Greek and Latin words, and that up to his time there had been no such thing as philosophising in

German. So much the greater is Kant's merit ; for if he drew his technical expressions to a great extent from the scholastic arsenal,—not as Plato did from the living speech of the people,—yet nevertheless he, in the first place, wherever it seemed possible without detriment to his purpose, as in the *Critique of Pure Reason* and in the *Power of Judgment*, coined German expressions ; secondly, he infused so much informing, living power into the worn-out threadbare vocables of the schoolmen, that many of them have since then passed over into the common treasury of language ; thirdly, he has over and over again given painfully exact definitions and paraphrases of the scholastic words, and in numberless places has proposed German words which in common use should have equal value with foreign words. That the German language came to be the language of the highest thoughts of the human race, is in the first place due to him.¹⁸

The comparison of the outer distinguishing signs of Plato and Kant might thus have been brought to an end. We started with their physical form, the condition which fate had allotted to them and their temperaments : by degrees we came to a comparison of style and handling of language. In a certain sense all this may be regarded as belonging to the outer appearance of a man ; it makes up what is the first thing that we perceive in him, and forms the foundation, what Plato might perhaps have called the *hypothesis*, for our appreciation of his inner self. Before we go on to Thinking, to the manner of Seeing, we must complete our comparison between the two men by a glance into their inmost souls. That will be as it were the " what " of their personality in relation to the " how," which we have just attempted to sketch,—whereas the theoretical Thinking floats hither and thither between the two.

At this point one single consideration will suffice us :

it goes to the very core of the matter : nothing more is needed. If we turn our attention to the inmost being of these two men, one fact will of necessity at once arrest our attention. It is not only in the result of their Thinking that Kant and Plato are at one, but what attracts them both to the investigation of the human intellect, the goal for which they are both striving, is in both cases identically the same : it was not the satisfying of speculative curiosity, not the solution of abstract professional questions, that drove the one from poetry, the other from mathematics, into philosophy, but what wholly absorbs them is a moral and practical object. Here again at first sight this positive element strikes us more forcibly in Plato than in Kant ; but the merest particle of sharp-sightedness and knowledge is enough to show us how from the very beginning, and how lastingly, it was the practical object which gave to Kant also a line to follow.

Plato's teacher, Socrates, had on principle turned his back upon all science and all professional philosophy in order to confine himself to the consideration of the practically moral interests of man : to this starting-point Plato remained inwardly faithful to the end. I remember how the brilliant Frenchman who first introduced me to Greek philosophy used to impress upon me that " Plato is no philosopher in the true sense of the word ; he is a moralist and a politician." I soon was compelled to see that this conception was the error of a man with no aptitude for metaphysics ; and yet, in the course of years, I at last learnt to understand what a true view lies behind the error. The recognition of the good and the evil (*ἐπιστήμη ἀγαθοῦ τε καὶ κακοῦ*) is represented by Plato in one of his earliest dialogues as that recognition without which all others taken together are utterly worthless ; and not only are Plato's most comprehensive works,—the *Republic* and the *Laws*,—admittedly devoted to practical political and social

questions, whilst metaphysics and the critique of recognition are only casually mentioned,—but in almost every single writing, whatever its subject may be, the culminating point lies in the question as to unconditional goodness, whereas the beautiful and the true are usually treated as almost, but not quite, of equal rank. Schiller's dictum,¹⁹

What we once felt here as Beauty
Will one day meet us as Truth—

is an echo of Plato: yet the Beautiful is in Plato's estimation nothing more than the form of the "Good" as it reveals itself from without to the Eyes of the artist. You have already heard how, according to Plato, the Beautiful must lead to recognition, and so also to the Good; it is only where that succeeds that the Good is to be praised.²⁰ But the True, according to a remarkable passage in the *Philebos*, is only mixed up with the Good (*μίξιμον*) as a secondary principle; the real True, in the meaning in which it is understood by all the world, that is to say, as an objectively empirical truth, is something which is as a rule beyond our reach: that is taught us in the critique of recognition. The simple presumption of the masses and of Aristotle that knowledge occurs in every subject as soon as we have recognised its essence,²¹ is so far senseless in that criticism has taught us that we never can recognise the essence of any subject; Truth is certainly related (*οἰκειότης*) to wisdom, but does not embrace it: rather is it only "the idea of the Good" (*τοῦ ἀγαθοῦ ἰδέα*) which points out of the phenomenon which swings as a pendulum to and fro between understanding and sensibility, and so communicates "a highest wisdom" (*μέγιστον μάθημα*).²² It is characteristic of this direction towards the practical that Plato from the outset excludes the ignoble and the craven from philosophical teaching: it is beyond their power to learn; without moral nobility no wisdom. And so it is not astonishing

to find in one of his ripest writings "the Sophist," that he calls his philosophy "the science of free men" (*τῶν ἐλευθέρων ἐπιστήμη*), and that brings us back to Kant who in a passage, where he is speaking of Plato, gives the beautiful definition, "the practical is that which rests upon freedom."

With respect to Kant our judgment is led astray by two circumstances: first of all his *Critique of Reason* and of the *Power of Judgment* had a more revolutionary influence, and so stirred up a deeper intellectual movement, than his writings about practical and ethical and religious questions: but then with this was connected the ludicrous fable, to which Heinrich Heine, the witty idler, gave world-wide circulation, that Kant when he was already an old man, frightened at his own critical achievements, hurried to the rescue of the conventional ideals, and that moreover in the interests of the uneducated masses. That is the way in which our unique great men have been treated since the dawn of what Viktor Hehn called "the new Jewish age."²³ This would be a matter of small importance, for which a gentle snub would be all sufficient, if there were any such thing as the much to be desired absolute classification of intellects; as it is, no year passes without our meeting with some variation of this blasphemous stupidity in book or article: and if the more sensible people among us know that Heine's joke is all nonsense, even so something of the misrepresentation of Kant sticks to him. The reality is as different as possible. "Philosophy is in truth nothing but a practical knowledge of mankind. . . . Philosophy is the science of the fitness of all recognitions to the destiny of man." So wrote Kant whilst he was at work upon the *Critique of Pure Reason* (*Rep.* II, 22), and in that very book he describes his aim as "making the ground level and solid for the erection of majestic moral buildings." Kant is in the first instance a mathematician, a logician,

and a moralist: his chief interest was what he understood by the conception of anthropology which in his view embraced so much, a discipline which his description defines not as the Thing, but as the Goal: opening up the sources of all the sciences, of morals, of skill, of intercourse, of the method of forming and ruling men, and at the same time of every practical activity (*Letters*, I, 138). These words he wrote while he was preparing for the *Critique of Pure Reason*. If you will follow carefully the progress of that book, which the publication by the academy of Berlin of Kant's letters has made possible, you will discover that what we now rightly look upon as Kant's masterpiece was, in the first instance, planned merely as something subsidiary. Nature as a whole and human nature in particular,—that was the goal for which Kant steered in the beginning, with hardly a good word to say for metaphysics. The first mention, so far as my memory serves me, of the project out of which in the course of some sixteen years the *Critique of Pure Reason* was to grow, is to be found in Kant's first letter to the mathematician and philosopher, Lambert, dated December 21, 1765. Here Kant tells us that for many years he has been turning his philosophical reflections in all imaginable directions: that the object of these endeavours is a "special method of metaphysics." These metaphysics Kant seems, according to other Letters, to have thought out in two parts: the metaphysics of nature, and the metaphysics of morals,—once more therefore nature, and (in nature) man. Then Kant tells us that he felt himself to be stopped short in this purpose of his, and forced to "go so far from his first proposition," inasmuch as it was impossible for him "to exhibit this special method of proceeding of his," until he should have "prefaced it by a few smaller exercises" which would at the same time have the advantage of preventing "the main work from being unduly spun out by too prolix

and yet inadequate examples." Of these smaller exercises Kant only names two, "the metaphysical elementary foundations of world-wisdom," and "the metaphysical elementary foundations of practical world-wisdom." That is the first germ of all the critiques, the accomplishment of which needed just twenty-five years from that day. The preliminary "smaller exercises" which were to be the heralds of the masterpiece which he had planned became themselves the great masterpieces of Kant's life, whereas of the great work which he had sketched out only the "elementary foundations" and a few sheets with fragmentary notes have come down to us. It is striking that Kant even in these early days calls the subject "practical world-wisdom" just as he did later, whereas neither the conception "Critique" nor the conception "pure Reason" have escaped him, but both slumber in the harmless conception "elementary foundations." It took a long time, and it needed immense efforts before Kant arrived even at grasping the problem of the critique of Recognition. In 1770 appeared the work written in Latin "upon the condition and the fundamental features of the world of the senses and the world of the understanding," which is usually cited simply as "the Dissertation";²⁴ the critical problem is indeed half set forth and solved, and in the eighth chapter it is expressly stated that all metaphysics must be preceded by a "science which should teach the distinction between recognition by the senses and recognition by the understanding." Yet this important achievement means no more than the climbing of a preliminary step,—Kant has not yet clearly seen his own aim. A year later, in 1771, Kant announces that he is at work upon a treatise under the title of "The boundaries of sensibility and reason"; but here again his work is only meant to treat of critical analysis parenthetically, its object is, independently of that, to deal with the whole science of

æsthetics, metaphysics, and morals.²⁵ You see with what difficulty and after what a struggle Kant makes up his mind to leave his aim out of sight even for a short time ; the idea of devoting a whole book, let alone three or four books, to the " business of criticism " as he afterwards often called it, cannot as yet even enter his mind. At last in the following year for the first time the perfectly clear recognition of the problem comes to him, and at the same time the expression *eine Kritik der reinen Vernunft*, though not yet meant as a title, occurs to him, to be followed again by the assurance that this is only the first part of the work which he has planned, with, as a sequel, " the pure principles of Morals." Kant was at that time hoping to finish this first part " within about three months " ; and yet two whole years later, at the end of 1773, he had to announce that he was still trying to level " his thorny and hard ground and make it free for his general work," and with an audible sigh he adds, " I shall be glad when I have brought to an end my transcendental philosophy, which is really a critique of pure reason : then I must go on to metaphysics in which there are only two parts, the metaphysics of nature and the metaphysics of morals, of which I shall produce the latter first, and am congratulating myself upon it in advance " (*Letters*, I, 126, 137). He feels the critique to be a task forced upon him of which he would gladly be free, but upon the practically edifying doctrine of morals he congratulates himself. From this time it still took eight years before the *Critique of Pure Reason* was finished, and seventeen before the other critiques, which indeed formed parts of it, were done with : that was a fulfilment of duty as Kant understood it. " I am as stiff-necked as ever in my determination not to allow myself to be led away by any literary seductions to seek for fame in an easier and more attractive field." And what was the reason of this " stiff-neckedness " if the business

of criticism said less to him than that which is practical? The same letter gives the answer: "I am illuminated by a hope, of which I could speak to no one but you lest I should be suspected of inordinate vanity,—the hope of being able by this means to turn philosophy lastingly into a new direction far more advantageous to religion and morals." Once more, four years after this letter and four years before the completion of the *Critique of Pure Reason*, he complains, "What I call the Critique of Pure Reason lies like a stone in the road, the removal of which now alone occupies me, and with which I hope to be at an end this winter" (*Letters*, 28. 8. 77). Ten years later, when he was able to look back upon his *Critique of Pure Reason* as an accomplished work, he summed it up in these words, "I had to do away with knowledge in order to make way for faith."

This little historical digression travels outside the frame of these lectures: but how could you gain a right conception of Kant's intellectual personality, if its central point, the driving will, remained unknown to you? The very fact which I have just exhibited opens up unexpected psychological outlooks in every direction. You remember, perhaps, that in the Bruno lecture we discovered a paradoxical relation: the mystics, absorbed altogether in the contemplation of their own Ego, sometimes perceive the outer world, from which they have apparently turned aside, with the distinctness of a vision, and so become the pathfinders of empirical science:²⁶ whereas men of genius who, like Descartes, will not even hear of the science of the schools, sometimes work as renewers and fertilisers of metaphysical thought. A precisely similar relation occurs between Plato and Kant, and is characteristic of their whole lives and thoughts: the man who takes no heed of this will never grasp these personalities in their inmost being. Both are moralists and sociologists, even though in Plato it is the politician, in Kant the

anthropologist, who is predominant : both are decided antimetaphysicians, and are never weary of harping upon and ridiculing the fruitlessness of the endeavours of all professional and systematising philosophers ; yet both find themselves under the necessity through their practical aims of busying themselves with metaphysics, and, just because they are practical men, at once lay hold of the analytical criticism of the human power of recognition in general : it is for them a subsidiary, passing, almost burthensome, business, but it is one which is indispensable for their object : then the Demon seizes upon them and will not set them free, for now they have attained knowledge, and that means isolation : men have ceased to understand them, and yet, their ethics, their sociology, their religion, that which depends upon them, which was their object at starting, that which is now the spoil of their bow and spear,—all this they cannot make known to others, unless they have first succeeded in communicating the critical appreciation upon which their whole philosophy now rests ; in order to attain that it must be continually worked up more and more distinctly, for ever set out in new ways, or exemplified by other relations ; so by degrees the subsidiary becomes the chief work : both are unconsciously pressed into the service of Providence ; they die without having achieved that which they had desired to achieve, and have in that very way brought to perfection that which they, out of the whole human race, were alone fitted to accomplish.

We shall only come to Kant as a moralist in the next lecture ; here it was only important to make use of the comparison with Plato in order to establish once for all this central fact of Life and Thought.

Though it needs no little courage we must now attack the most difficult point—that peculiar manner of seeing the difference between Things and ourselves which gives birth to that “ Critical Thought ” which it is so hard to

express in words. Here, as I said at the outset, we may expect a by no means insignificant help from the fact that the poetically gifted Plato is rather inclined to give positive expression to critical recognition, to look upon it as a liberation out of the mist of indistinctness (*συνκεχυμένον*) (*Rep.* 524 C) into daylight,—in consequence of which Kant compares him to a dove which “cleaves the air in free flight.” Whereas Kant himself, the circumspect northerner, whose eyes have become keener in the hyperborean night, sees the chief value of criticism in its negative performances, that is to say, in once for all keeping reason within bounds and consequently in warding off errors, comparing it prosaically not to the free flight of the soaring bird, but,—I hardly dare use the word,—to the Police.²⁷ It is my purpose in the first place to take Plato into consideration by himself, only pointing here and there to Kant by way of elucidation; next, in order really to understand Plato and not merely to chew the cud of language, we shall have, as in the former lectures, to undertake an incursion into actual perceptible subjects in which the phenomenon of life itself will serve as the best representation of the ever insoluble intellectual strife between what we are and what we are growing into: fortified by this touch of empiricism, we shall then briefly contrast Plato with the heroes of our former lectures—Goethe, Leonardo, Descartes, Bruno, and so find our way back once more to Kant.

“The real lover of wisdom,” says Plato in the *Republic*, “is the man who craves for the perception of truth” (*φιλοθεάμων*) (*Rep.* 475 E). “Craving for the perception of truth”; in these words are comprised a confession and a programme: it is the confession of an individuality which in order to know must see, and which therefore will always and everywhere seek for the gift of perceptible from (the programme), even in abstract thoughts. For where there is nothing to be seen, and seeing is yet a

necessity, there fiction must be resorted to, and fiction is the programme. The confession and the programme testify to a predominantly affirmative nature ; here the advantage is perceptibility,—the disadvantage is that the whole philosophy, however keenly critical Thinking may be at work, exhibits itself in a system of allegories interwoven among themselves ; the great majority of mankind then contents itself with the allegory, takes little notice of the surrounding infinitely delicate web of thoughts, of the smiling irony of the inventor directed against himself, and of his oft-repeated purpose,—but takes the picture which is to communicate recognition for the recognition itself, out of which there arise the most monstrous structures of thought (as in the neo-Platonists), whilst the prosaic scholars, with Aristotle at their head, laugh at Plato as a dreamer. Yet Plato has in a hundred passages laid stress upon the allegorical and poetic side of his teaching. For instance, the famous allegory, to which we shall return presently, of the chained men in the cave in the seventh book of the *Republic*, is expressly designated by Plato as a picture (εἰκών) ; in the *Phædo* he calls his representation “the second-best course,” since the direct representation is impossible. In other places he speaks of “Dream-pictures which often hover before him” (*Kratylos*, 439 C), and of discourses of which “he does not know whether he heard them waking or in a dream.” But all that only concerns the outer, rough walls of the building : we only arrive at the road to the understanding of Plato when we have learnt to see that not only are these manifest allegories parables, but that in his case one parable contains another, and this again a third, and so on into the finest detail of the architecture, and that too for the simple reason that, as I have just shown, in critical thought the only possible affirmative expression is a parable. Little has been effected therefore if we recognise as allegories the great famous allegories of the waggon of souls, of the dwellers

in the cave, of the Island Atlantis, of the mutinous sailors, and so forth. Even Aristotle possessed as much insight as that ;—we must learn to understand that all the chief conceptions or rather chief representations of Plato, like the idea, memory, participation, etc., are equally parables, and in a far more refined sense : every one of such representations is the pictorial expression for a thought. Plato, urged on by his genius, has by immense tension of thought travelled over the road from within to without ; what he reveals are visions, creations of the metaphysical artist, demanding of us that we should travel back over that same road, and thus reach those thoughts which defied speech. And so it will not do for us to stop anywhere half-way, as the wish might take us,—as we might in all true symbolism—saying Here I will stay, I can climb no further. The symbol is the Thing itself, a cosmic fact, taken more broadly or more narrowly, as you please : but one parable, on the contrary, points from itself to another. In Plato then we have to look at the picture as such through and through, until we reach the core of thought, otherwise we have irretrievably misunderstood the thinker, and know no more of him than we do of a closed book of which we admire the binding and the tooling without any knowledge of its contents. Plato is never quite without a picture, not even in such an abstract-dialectical essay as the *Parmenides* ; for even the form of dialogue and the scenic effect are enough to surround every one of his essays with poetry ; and if our eyes saw nothing more than the interlocutors, even that would be a “ perception ” ; we must read the thoughts in the faces : Plato has so willed it. Here at last we touch the living centre of the Platonic method of teaching. He is dealing with that which is not to be expressed in speech. The gift of speaking in pictures was Heaven’s gift to him, but the necessity for it lay in the subject itself. But what words cannot express, that pictures

cannot express either : they are not lectures but signs, something like speaking with a deaf man by gestures and play of countenance. Sometimes, however, every picture perceptible to the senses is powerless, and then Plato pursues this same course of suggestion by parables in a field where the senses have no being : paradoxical as this may seem it may be hoped that it will lead you to the consciousness that the critical analysis of recognition, brought forward in a positive sense, always speaks in a figurative sense,—that it never does more than stimulate and indicate, even where it does not present itself as openly allegorical, but logically dialectic. It is impossible to understand Plato's dialectics apart from his allegory : there is no sharp dividing line : it always demands something which the reader is to accomplish : until he has done that,—until he has "travelled over the road,"—he has not understood Plato. You remember how Plato spoke of "creating in the soul," and how the ancients revered in him an intellect akin to Dionysus ; creation seems to me something essentially different from proof : Plato's work then, whether in parables or in words, has for its object a creation. That, with reference to his method of exegesis, is the last word of the secret.

With this method, unwillingness to prove and unwillingness to schematise, is connected the reserve so characteristic of Plato and his almost timid modesty. He knows that he cannot express in words what he means : hence the expression "the second-best course," which recurs in a hundred variations. When Meno interrupts Socrates with his admiring acquiescence, he replies, "I myself am not sure that I was right in what I said" (*Menon*, 86), and in the *Phædo* he says, "no sensible man will be ready to assert that what I have just said exactly corresponds with the truth" (114 D). In the middle of a deep theoretical investigation of recognition he interrupts himself, "It would need a great

man to decide this point: I cannot trust my powers in the matter";²⁸ and on another occasion we see exactly how he screens his eyes with his hands when he exclaims: "it may be so, but there again, when I have taken up this position, I run away because I am afraid of falling into a bottomless pit of nonsense, and perishing" (*Parmenides*, 130 D). Plato is a discoverer in precisely the same sense as Columbus and Kant: he is conscious of it: he possesses no chart of the new country: every step is a surprise, and every step needs prudence. Hence the groping; almost timid attitude in the investigation of the virgin soil immediately followed by over-haste and audacity such as we only find in the inexperienced. Here again is Plato the great artist; it is not in the form of speech only that he is dramatic,—that again is after all an allegory—rather is the true drama played in his own mind, and with consummate art he allows us to share in all his adventures. That is why no schematic, no systematic and no purely learned method, arrives at the true understanding of Plato. For that artistic taste and delicacy, an animated and free intellectual life, are essential.

It must be clear how important these remarks are for our aim; not only is Plato's method of Seeing here already in part described, but we know in what way we must prosecute our investigation. For we know that Plato's works exhibit the passionate life-drama of an intellect devoted to Thinking, and in a life things do not stand side by side as they do in a system, but they develop themselves out of one another. Here the symbol once more asserts itself. From the earliest work of his youth to the greatest literary effort of his old age—the *Laws*—we all the time see exactly the same Plato; he develops himself, but he does not change; any seer of a kindred intellect could in almost every dialogue, taken at choice, recognise the fundamental principles of

the Platonic philosophy; and yet the assertion that Plato never comes to an end, that he is always repeating what has gone before and bringing forward something new, is equally true; the keenest-witted professor of method could never succeed in reducing this philosophy into a formula or into any system of formulæ. To what an extent is this mode of thinking an experience of life! Here then it would be vain to seek for any absolute immutable dissection of thought and verbal definitions; for here from the first day to the last it is always a question of search, never of settlement. This sort of thinking overflows every receptacle, because nature reflects itself in its almost spotless purity, often soaring on all sides above the human brain. Anaxagoras is greater than his work; his *Nous* is a compromise between what he suspects and what he wills, between his love of truth and his need for a logical rounding off: even an Aristotle is greater than his work, and is therefore able to give it form with such arbitrary precision; he is absolutely wading in compromises, that is to say, in thoughts and definitions, in which neither he nor any one else ever put any real faith. Plato, on the contrary, is without any lie: the deepest critical discretion in him goes hand in hand with a proud innocence: "I am amazed at my own wisdom, and always remain in doubt about it" (*Krat.* 428 D); and so his work carries him as the ocean does the ship. What we then,—we who neither aspire to a history of Platonic thought, nor to fathoming the Platonic philosophy, but only to affording a plastic sketch of its outlines,—what we have to seek for, and in regard to which we must become perfectly clear, is on one side the permanent symbolism of the Life devoted to Thought, and on the other side the various and varying allegories which express the thought to which that life was devoted.

If we begin by taking notice of the great, lasting and symbolically valuable characteristics in Plato, we observe

that two of them are already familiar to us, namely, first the care for the moral well-being of man as the foundation and starting-point, of all Plato's thought, and secondly, the imperative necessity of seeing everything with the eye, a tendency from which his method of exposition is derived. To these yet a third must be added. For as soon as we take into consideration specific Thinking as such, it is certainly the critical posing of the question, simply and solely, and with no reference to result, which is the decisive point. Of what kind then is this posing of the question upon which criticism is founded ?

Criticism must not for a moment be confounded with scepticism. The most famous Sceptics of Greece were Plato's contemporaries ; he looks upon them as dangerous enemies : they make everything unstable, and annihilate true morality together with true science : they are the frivolous element in philosophy, and Plato can find no better simile for them than that of "snapping curs." Neither must there be any amalgamation of the sensual theory. The philosopher of the sensual school is like a coachman without horses, who stands in the street cracking his whip, and fancies that the crack of the whip will suffice to carry him on his way. That perceptions are communicated through the senses, and that therefore our notions of things depend upon the mechanism of the senses, is a right view and as old as the hills : yet it only affects our anatomical psychology, not our metaphysical reflection. Plato settles the sensualistic objection in his simple fashion observing, "with what do we see ? with what do we hear ? not with the eyes and with the ears, but by means of the eyes and by means of the ears. . . . It would be a cruel thing, my son, if all these perceptions like the warriors in the belly of the wooden horse before Troy were to lie side by side without all combining in one fixed ideal unity (*μία ἰδέα*)—call it soul (consciousness), or what you will ; and it is this unity which by

means of those instruments (literally, organs) perceives that which is perceptible."²⁹ So he points back to the centre of the question of critical recognition: What is that unity without which the countless perceptions never can make for the building up of the single experience? "Call it what you will"—psyche, that is breath, the breath of life, the power of life, heart, soul, consciousness,—Plato never haggles about words (cf. *Rep.* 533 E); as he says, "it is always better to come to an agreement about the thing itself than about the name which we give it" (*Sophist*, 218 C). But this "thing itself," this ideal unity, what is it? What do we know of it? "A man may lay himself flat upon his back the better to watch the stars, yet he will always be looking downwards, not upwards: the soul is only directed upwards when it asks itself the question, What is Being, what is the invisible?"³⁰ How are we to arrive at any conclusion about nature and ego, about the origin of Things, about unity and plurality, about what we are and what we are growing into, about virtue and duty, if we have never asked ourselves what, after all, is experience?

We may assert that apart from the purely practical political and educational lectures, all Plato's works, from the first to the last, have reference to the answering of this question, What is experience? And even his practical views are so closely connected with this nucleus of his metaphysical Thinking that we meet with the deepest investigations into the criticism of recognition in a work like the *Republic*. And in the manner which is peculiar to him of treating everything as a matter of perception, Plato himself felt the mental impulse out of which this question arises, as a bodily movement: as a *turning round of himself*. "Most men do not suspect that they do not know the essence of Things" (*Phædrus*, 237); but out of this condition of ingenuous unconsciousness they cannot be awakened by degrees by a gift of fragments

of critical insight, any more than a man sitting in a dark dungeon can send his eye alone up into the light unless his whole body goes with it : " the whole soul " must be laid hold of and turned from the one direction into the other, what Plato calls " the art of turning round " (*τέχνη τῆς περιστροφῆς*) (*Statesman*, 518 C D). The main point is that instead of consulting the Things,—the so-called, ostensible Things,—we should first investigate the recognition of things, the manner in which this recognition comes into existence ; our looks must be directed inwards instead of outwards. " It seems to me ridiculous that I should be looking at other Things, so long as I remain ignorant about myself ; so I leave them alone and look searchingly into myself, to see whether haply I may discover some more tortuously formed, some more raging monster, than the dragon Typhon,—or whether maybe the nature of man is tamer and simpler, and at the same time made after the fashion of the gods, though less high-flying " (*Phædrus*, 230 A). This decisive attitude of life, which is in reality a fact, since it means a change in the direction in which the intellect habitually advances, would lead me much further if it had not been dealt with in detail in the contrast between Kant and Bruno (I, 422, *seq.*). I think you will hardly have forgotten my simile of the mountaineer ; everything which I said there with reference to Kant holds good with mathematical precision of Plato ; in this respect the standpoint of the two men is identical. Just as Kant threw aside all " isms " because " there are no true polemics in the field of pure reason," so Plato threw aside all the systems and dogmas which he saw around him, because they all proceeded from " uncriticism," and because all these proud structures of the philosophers appear as unsubstantial shadows to the eye of the intellect which has " turned round." Kant ironically compares the philosophers to the heroes of the Walhalla who hack

one another to pieces one day and on the morrow grow together again: Plato just in the same way laughs at "the monstrous fights and tumults" of the different schools, and he dubs as "nursery tales" the doctrines of the monists, of the dualists, and of those who try to act as mediators between the two. When he has reduced them all *ad absurdum* he too begins to consider the two possible attempts dogmatically to cut the Gordian knot, —that is to say, the "tame" doctrine of absolute idealism, and the "arbitrary" perceptions of the materialists, "difficult or perhaps impossible to conquer" on account of their inborn limitation, and he shows that in the light of critical discretion both conceptions are senseless.⁸¹ Of the perfect type of the non-critic, the absolute opposite to his own method of thought he has had little or no experience: it was Aristotle who literally did what Plato had turned into ridicule, and "lay flat on his back" in order to find out from the movements of the heavenly bodies, how many spirits, substances and aims go to make up the world (see p. 42).

These then are the three intellectual attitudes which characterise Plato's Thinking throughout his whole life; no one can correctly appreciate him without rightly observing and understanding them; they are (1) practically moral pressure as the mainspring of knowledge; (2) perception with the eyes as method of knowledge; (3) inward "turning round" as condition of knowledge. A more refined analysis would yield further results, but this will be sufficient for our object.

The matter assumes a far more difficult shape when we cross over from these most universal, permanent qualities of Thinking to the Thoughts themselves; for Plato's poetical method has for its result that one and the same thought crops up in very different forms: so far his Thinking is more difficult to grasp, I mean to grasp in the shape of formulæ, than that of any other philosopher in

the history of the world. But what we have just ascertained about the three directing, permanent intellectual predispositions will be of service to us here ; the symbols will be made to help us to disentangle the fundamental allegories out of the mass. For it is clear at once that round every one of these three driving forces (if I may so call them) a main group of inter-related allegories will form itself like steel filings round the pole of a magnet. If once we have recognised in their significance these pictures which lie nearest to Plato's Thinking, then it will be easier for us to make further discoveries.

In regard to what appertains to the practically moral mainspring as the first intellectual attitude, it is evident that the very goal of all Platonic Thinking must correspond to it,—not therefore the critical enquiries, but the moral result,—and that, in consequence, the allegory here is nearly connected with the more ordinary, vulgar meaning of the word. And as a matter of fact those dialogues which are the richest in their scope are devoted to the delineation of ideal social organisations, which should serve as patterns, and of which Plato expressly says that it is immaterial whether they are possible to carry out or not, it is the setting up of an " example," or as we should say to-day of an " ideal " ; here we have again Perception as the guiding star for the apprehension of thoughts. It is not incumbent on us to examine more closely the ethical-political question.

Perception as method and " turning round " as a condition of knowledge stand on a different footing : here matters are not so perspicuous,—and it becomes all the more necessary to throw light upon them : for round these two permanent directions of thought are formed the two great groups of allegories in which Plato's whole critical Thinking takes shape. We will consider first the one group, then the other.

That rich complex of notions, for which Plato himself

had no single word, but out of which after-ages, under the lead of Aristotle, coined the conception "the Platonic doctrine of ideas," is really nothing more than the great multiform allegory which was bound to arise so soon as seeing with the eyes formed the method of thought, and in consequence the criticism of recognition assumed an actually perceptible shape.

The real knowledge of what is meant by "idea" would be the beginning and end of an exact knowledge of Plato's philosophy. Here I can only give a few hints. And in the first place it is very important to remark that it is true that he thought the thought and took pains to project it into visibility in numberless colours and forms, though he never knew a word for it, its name, its label, and at the same time its sharp limitation and realisation, by which I mean that no special word ever possessed the systematic meaning for Plato which we give to the word "Idea." Here again the origin of misunderstanding is Aristotle, who in the notorious sixth chapter of the first book of his *Metaphysics*, gives the pattern of a description woven out of misconception and depreciation upon the subject of Plato's so-called doctrine of ideas, and pretends that this doctrine arises out of the most confused scissors-and-paste-work of the thoughts of other philosophers, already none too perspicuous; here he makes the assertion that Plato called definitions (*ὁρισμοί*) of things the "ideas" of that which is (*τῶν ὄντων ἰδέας*). What we are to make of this remains just as unimaginable as what arises from the further position that Plato had no knowledge of matters of the senses; so definitions taken from heaven knows what notion remain as the essence of Being; and that is the doctrine of Ideas! and thus we hear good, honest Seneca, whose popularising philosophy and doctrine of morals till a short time ago exercised such a determining influence upon the conceptions of all cultured Europeans, saying in answer to Lucilius, "you ask what

ideas may be? they are the stock-in-trade peculiar to Plato which he called Ideas," etc.³² From Seneca's time to that of Eduard Zeller in our day, you will find much the same unthinkable talk about this peculiar "stock-in-trade" of Plato's, the doctrine of Ideas; it is for this reason that even tolerably sensible people look upon Plato as the prototype of the dreamer in the clouds. But if instead of the notices of others you take in hand Plato's own writings, which a kindly fate has preserved for us so fully and in such good condition as is the case with few works of antiquity, you will be astonished nowhere to come upon this "stock-in-trade of Plato's," nowhere, that is to say, in the shape in which you would expect to find it according to Aristotle and all the books on the history of philosophy. Even from a linguistic point of view the matter is quite different from what we are led to believe; for if you cast about for the corresponding word in Greek, you will discover that there are two different words for our modern word "idea," *εἶδος* and *ἰδέα*. Plato uses both words freely, and indeed in such a fashion that they sometimes exactly coincide and are even substituted without any distinction the one for the other, as, for example, at the beginning of the tenth book of the *Republic*, where the meaning is so absolutely identical, that where the same sentence is repeated at one time *ἰδέα*, at the other *εἶδος* is employed, and both words may constantly be translated by Idea, or Conception, or Notion, or Form, as you please. But the fact that there are cases where *εἶδος* and *ἰδέα* can be used indifferently does not prove that the two words are interchangeable, and as a matter of fact Plato does not so regard them: Hermann Cohen's fundamental work, *The Platonic Doctrine of Idea (die Platonische Ideenlehre)*,³³ has set that matter at rest and that indeed has since then been forced even upon the unlearned, since it not infrequently happens that *eidōs* and *idea* are contrasted in

the same sentence.³⁴ As you will see more clearly in the further course of the lecture, it is here that the true core of thought lies. As in every seen form there is a double, space shut out and space shut in, which an impalpable boundary line separates, so the Idea always expresses a relation at once combining and opposite between two things, and therefore is on the look out for two directions. Lest you should plague yourselves with mere sounds of words, I will at once make the interpolation that Plato in the main uses *eidos* for the comprehensible, *idea* for the perceptible side of the same notional complex; *eidos* is rather thought than seen, *idea* rather seen than thought; they meet in the centre line and have there just the same meaning; but they can part asunder even to the point of contradiction. This relation is precisely analogous to that between "conception of reason" and "idea" in Kant, with which we became acquainted in the first lecture (p. 82). I can, moreover, give you a perceptible example; Plato sometimes uses *eidos*, with *genos*, for that which we moderns call a *genus* in the animal kingdom, *idea* he often uses for *species*; the conception *species* attaches itself to the directly perceived individuals, and is therefore, at any rate in theory, pure perception coupled with a conceivable analysis of what we have seen; *genus*, on the contrary, is a conception drawn from several species, and is therefore entirely thought, even though it be a thought gained out of perception: yet in the practical investigation of nature it is never easy to keep *genus* and *species* apart; what one zoologist or botanist holds to be a species,—that is to say for the collective conception of individuals actually seen with the eyes,—another will hold to be a *genus*,—that is to say, for an abstract conception to which no perceptible being directly corresponds. That is just the relationship between *eidos* and *idea* in Plato; and since he is a living man subject to changes, who knows nothing of the strait-

*waistcoat of Aristotelian subtilisations, it may happen that he sometimes uses *eidos* and *idea* to express the same thing: it resolves itself into a question of perspective.*³⁵ But how gross must be a method of thinking which marks nothing of all this delicate organism of thought with the two almost synonymous and nevertheless often contradictory words, and simply declares, "Plato calls the definitions of things ideas"! Here we come to a full stop—a real precipice. But there is more to come.

As I said at the outset, Plato indeed thought his thought, but he neither introduced it methodically nor perfected it technically; what may be called his "doctrine of ideas" is no systematic doctrine, but a living part and parcel of his whole method of thinking; and whilst we are quietly theorising over "Plato's peculiar stock-in-trade," it is in reality impossible in the majority of cases to translate *eidos* and *idea*, as Plato uses them, by the word "idea," whereas, on the contrary, we are not seldom prone to employ the word "idea" where he makes use of other words. Plato attaches to *eidos* and *idea* the meaning usual in Greece:—visible shape, appearance, form which ends by giving the conception of "quality" or even "essence." It follows that *eidos-idea* must be translated by the most different words and sometimes even by whole sentences, if the modern reader is to obtain an approximate notion of the meaning. In the work of the best translators we find form, fundamental form, perception, conception, species, character, law, unity, genus, essence, tendency, pattern, view, and many more; periphrases are common, as "species and form," "a certain unity," "general fundamental form," etc. And where one translator writes "fundamental form," the second writes "conception," the third "unity," and the fourth "idea."

What I should wish to hammer into you is that this word "idea" is not in Plato, as it is later in Kant, a hard-

and-fast, defined conception, and that for that reason it must never be taken in a purely technical sense, but that we must recognise in it one allegory among others though it may be the central allegory, and therefore conspicuous on all sides, and borne like a boat upon the ocean by the profound thought which underlies it. Thoughts must be perceived by the eyes; that is Plato's method. *Idea* means sight which recognises, and so it comes about that the two words *eidos* and *idea*, which in many cases might be best rendered by "thought made visible," play an important part in Plato, even though it may not be quite so dominant as people are apt to maintain.³⁶

Since we have not the power to break the habit of tens of centuries, and since we have guarded ourselves against the misuse of the word, we must just use the word "idea," and include in it, for the sake of convenience, the allegories for the whole compass of critical insight which forms itself round the centre of the Platonic doctrine of recognition; the eternal misunderstanding that the idea is itself the doctrine, that Plato built up a dogma upon "ideas," unintelligible abstract quiddities, a world beside the world, is something which I hope we need no longer fear. And so we can go bravely to work to define what it is that we are to understand by "idea" in Plato. Space as form of the sensitive faculties, the conceptions of the understanding or categories, Time as mediator, the principles as Kant calls them which are the consequence of all of these—(size, measure, tenacity, etc.), reason with its rational conceptions, and ideas, in the narrower sense of the word, nay more, even ideals, the representation of the true and the beautiful,—all these very different notions are designated by Plato by the word *eidos* or *idea* as the spirit moves him, and indeed by other words which in the same way signify genus, species, visible unity, etc. They are all "ideas" in the sense of the Platonic allegory. But not they alone, but

also, indeed I should say in the front rank, the countless host of notions which even to this day are often called "ideas" in common talk, namely all *nomina appellativa*, *collectiva*, and *materialia*, i.e. names of genera, collective names, names of materials, names of qualities, and so forth. Not only then the Where, the When, and the Why, not only the distinction between great and small, limited and unlimited, not alone Ego, Nature, and God, not only truth and beauty, world-creation, evolution, atoms, æther, are ideas, but ideas are also man, dog, blue, bed, flute, etc., *ad infinitum*.

The definition must be as follows : Idea is everything through which unity is created.

Plato himself seldom gives definitions : but on one occasion he writes, " whenever by any means we can condense a plurality to a unity which we can furnish with a name, then we have an *eidos* " (*Republic*, 569 A). Sensibility, the visible (*τὸ ὁρατόν*) as Plato calls it, creates plurality ; the understanding, as Plato says, the invisible (*τὸ ἀορατόν*), or the genus and domain of that which is thinkable (*τὸ νοητὸν γένος τε καὶ τόπος*) (*Republic*, 509 D), creates unities in this boundless and formless plurality : that occurs by the intermediary of ideas. Plato sees a rich, a perhaps endless, sequence of such unity-creating ideas, beginning quite low down among the simplest perceptions, binding plurality into unity in ever wider and wider circles, till at last in the loftiest heights the one all-embracing idea of the good,—that is to say, the conception of the goal as form of thought—binds exclusively in one single unity all that is, and was, and is to be. In later times the neo-Platōnists and theological gnostics created out of this graduated scale all sorts of wonderful and not very agreeable fancy pictures, a whole abstract mythology ; in Plato, however, it cannot be taken too simply or too palpably. In opposition to the superficial historical stencil you must learn to perceive that Plato is through-

out an observer and an empiric :—not in the same sense as Newton, though he is so in the same sense as Leonardo, as to which I shall have more to say later ; the eye is his organ, and so his business was everywhere to point to perception in combination, the seeing of unity in plurality, as the foundation of our intellectual life ; and here it was not the hypothesis of various different powers that could help him, as it did the negative critic and analyst Kant, but in his case everything that makes for the creation of unity was one and the same power in various stages of application. Wherever thoughts bring flight to a standstill, and give shape to the shapeless, there is the formation of ideas. Without these unifying ideas there would be indeed no recognition, no knowledge, no experience (*γνώσις*), nothing but the irrelative transmutation of Heraclitus (cf. *Kratylos*, 440), the continual flow of blind perceptions. But you do not yet understand Plato, but are, on the contrary, rather on the wrong road, until you have perceived that with him it is just as much the business of ideas to separate as to unite. Each function is of equal importance : the *diairesis*, taking to pieces, is just as important as the bringing together, *synagoge* (*Phædrus*, 265 seq.). Everything which creates unity is idea, as I said : yes, but that which out of a more important, more universal unity creates other minor and more strictly circumscribed unities, equally thereby creates unities. *Idea* which is the same as species has no less significance as unity than *eidos* which is genus : indeed, the converse would perhaps be more true. If the human intellect were pushing for absolute unity, and did not form for itself ideas on different stages, thus dividing up every single unity into many unities, then " the chaos of Anaxagoras would come to the front " (*Phædo*, 72 C). You see how far we are from Bruno, Plotinus, Spinoza, and the whole tribe of monists : Plato, far from falling on his knees before absolute unity, is of opinion that it would

be even worse than no unity ! It is not for that reason only, he says in the *Philebos*, that it is not sufficient to know that on the one side there is unity, and on the other side unlimited 'plurality, but what is worth determining is " the number of the how many " ; it is not until we possess the ultimate attainable unities that we are in a position " to sacrifice to the unlimited " the mass of the uncountable individuals. He expresses even more precisely in the *Sophist* the way in which he imagines this organisation partly in rising stages, partly in branches standing out from one another ; " whoso understands how to separate will also perceive with sufficient keenness one single idea in the plurality which is scattered in single phenomena ; but then he will remark that many such different unities are in turn encompassed in a new idea, and that many of these ideas (of a higher order) are again locked together in a unity, while many others (out of this new idea) remain absolutely apart."³⁷ You observe that this ladder of stages is in no way systematically logical, but that Plato here, as always, travels along the road of empirical experience, that is to say, of perception. " The plurality which is scattered in single phenomena " is consolidated into a series of unities such as man, dog, oak, palm, iron, gold : on closer consideration,—or as Plato would say, by more powerfully concentrated vision—I discover that many of these ideal unities are in turn joined together into new ideas, as man and dog into " animal," oak and palm into " plant," iron and gold into " metal," and then again animal and plant into " living being," whereas the idea metal " remains absolutely apart." Thus ideas unite and ideas separate, and the one no less than the other implies the " creation of unity." Besides this we may remain fixed at any stage that we please ; what was up to now *idea* may now be conceived as *eidos*, for every idea, no matter on what stage it stands, is a Whole. In order to

obtain this Whole,—this ideal unity,—we had in the first place “by concentrated contemplation to reduce to one idea that which was scattered in every direction.” But now if we wish to analyse this Whole correctly, that is to say, to dissect it into ideas, we must first have rightly comprehended “the nature of the Whole” (τοῦ ὅλου φύσις) (*Phædrus*, 265 seq.). So we build up the greater unities out of the smaller, and yet we obtain the smaller ones from the exact perception of the greater, which does not signify so long as unities be created, for that alone is the important point.³⁸

So the idea swings backwards and forwards like a busy creature, defining everywhere not abstract, but perceptible forms, not logical definitions, but organic unities. To have ideas means to unite, to separate, to organise; and I imagine that you must begin to understand how far Plato is justified when in the domain of the invisible he speaks of seeing, and asserts that the attainment and cultivation of this inner seeing, of this sense of the soul (ὄργανον τὴν ψυχῆς), is more important “than the possession of ten thousand eyes” (*Rep.* 527 D E). For where would be the power of the eye unless the understanding were by contemplation to unite that which is merely seen mechanically into thought-forms? Not till that takes place is there any Seeing. True, the eye sees, but only confusedly; the thing seen only becomes distinct with the co-operation of thought directed upon it (*Rep.* VII, 524). It is this Seeing which penetrates the whole of Plato’s intellectual structure; his philosophy (*Weltanschauung*, perception of the world) is Seeing in its highest power. To this must be referred the perceptible ordering of ideas, the visible setting forth of all their relations to one another, a living architectonic system, rather to be compared to an organic being than to an artificial structure. Besides this, Plato always takes his stand upon the concretely seen; he is loath to leave it, and is ever rejoining it, so that he derives

even the highest ideals from the contemplation of what is actually seen by the eyes, as, for instance, when he calls up the Idea of the unconditionally beautiful out of the contemplation of single beautiful bodies. The logician will object that such a proceeding presupposes the conception of beauty, etc. That we may look upon as immaterial;³⁹ all that we are interested in is the way in which Plato set to work: Plato himself admits that this doctrine of ideas—if indeed any such thing exists—is an allegory; the real question is whether it conveys a truth, and perhaps a truth which is inexpressible, suprallogical, and critical.

The power of forming ideas, as Plato understands it, means neither more nor less than the possibility of knowing in general. To the critical question, "how is experience possible?" he answers, "only through the 'binding' of the unlimited by the 'limiting' is 'Being' brought into existence" (*Philebos*, 26), or, which is the same, "is recognition brought into existence" (*Menon*, 28 A). This binding takes place by the formation of ideas. That "sense of the soul" (*ὁργάνον ψυχῆς*) which helps us in intellectual sight, is therefore the organ of knowledge: and since everything depends upon the manner in which the limiting is brought about, Plato tells us, "only the man who possesses the sense of symmetry and grace will be apt without compulsion to be led to true ideas"⁴⁰ (*Rep.* 486 D). How Greek and how noble, how true at the same time for all ages is this doctrine: it is only by means of limiting formation that experience arises! It constitutes the soul of Plato's Thinking; here we have the thought that in the whole course of the world's history could only once be brought forward, and but for that would have been lost for ever.

To Plato, on the other hand, the more exact logical definition of what ideas are is a matter of comparative indifference, thereby showing himself to be a true meta-

physical critic of recognition ; for as soon as I take refuge behind the primary phenomenon which is the property of experience, and first arises through experience, I am bound to become a dogmatist, and cease to be a critic. But it is part and parcel of Plato's nature to affirm, to maintain, to build up, and so with a smile of irony at himself he at one time brings forward one conceit, at another a different one : " As regards origins it is enough if what I say is not more improbable than what others say : we must not forget that we are all men " (*Timaios*, 29 C). As regards the origin of ideas, as we know, Plato most often uses the allegory of perception ; sometimes, however, he speaks of imagining (*Symposium*, 205 B) or of inventing (*ib.* 208-9), also of prophetic foreboding (*μαντεύομαι*) (*Phil.* 64 A) and of dream-pictures : he becomes entirely allegorical when he claims ideas as " eternal patterns " or primary pictures ; then again he reaches almost a Kantian negative criticism, when he designates them as Law, as unity, or even as " hypotheses," as " possible premisses " from which a consistent philosophy might be deduced and which " we might take as a foundation without letting ourselves be scared by fright at our own shadow " (*Phædo*, 100 *seq.*) ; and it is worthy of remark that now and again he describes ideas as mere " name-givers " (*εponυμοι*), while on other days he " dreams " that they may be " something in themselves and for themselves." Evidently in regard to the essence of *eidos-idea* there is just such a swing of the pendulum to and fro as in regard to their application : what seems to many of us the matter of chief importance, Plato dismisses as subsidiary : wonderfully organic is his Thinking, and just as little is it systematic. Is he so very wrong then to give his mind a loose rein ? Is it not much the same whether he considers ideas as logical sequences, syllogisms, arising out of the impressions of the senses, or whether he lets the ideas take precedence and makes the things

perceptible to the senses arise out of them as copies? For him the one decisive matter is solely the accurate fixing of the point where Being,—that is consciousness, which means Thinking, which means the world—is brought into existence, and this point is, as we have said before, that where “binding” and “limitation” take place. All that exists is relation: that is Plato’s critical discovery. “We may neither speak in an off-hand manner of a Being, nor allow others to do so: for a Being exists only for, through, and in relation to something. Nor can there be an active without a passive, nor a passive except in combination with an active. It is the combination of both which brings into existence perception and the thing perceived, and gives birth, on the one side to a Thing in some fashion created, and on the other to the man who perceives the Thing.”⁴¹ Bringing into existence—*γένεσις εἰς οὐσίαν*), that is the one and only point upon which our Dionysus-Plato focusses his eye.

If I were minded to go further into particulars, that would mean a setting forth of the whole Platonic philosophy, an attractive but very responsible undertaking which has no place here. There will be a good deal to add here and there; at any rate, I hope to have contributed something towards the characterisation of Plato’s personal method of seeing. Now we must face the last group of allegories. We have seen *Idea* corresponding to the attitude of seeing with the eyes as method of knowledge. The next group corresponds to the “turning round” as condition of knowledge. Now that we know something about the *Ideas*, this very delicate theme, the source of such ineradicable misunderstandings, will, I hope, be conquered with relative ease.

I turn myself round. Why? in order to see something which I did not see before. What could be more natural than to make use of this attitude of turning round in a critical sense, that is to say, seeing directed inwards

instead of outwards,—critical cross-examination instead of empirical acquiescence? What could be more natural, I repeat, than making use of this attitude of turning round for the perceptible illustration of the doctrine of ideas? And so—to begin with the simplest of the allegories, there arises the fable of the men imprisoned in a cave, who turn their backs upon the light of day, and only see upon the wall the shadows of things moving outside. The meaning of the parable is this: an object perceived only by the senses, not yet concentrated into the mental form of an idea, is nothing more than a flitting shadow-picture; for example, a dog that I only perceive is nothing more than a yellow or black or spotted blotch of uncertain outlines: it does not attain its actual being except through the idea “dog”; not till then does it become a fixed something:⁴² it is thought which at last “brings into being”: but what is the dog itself in contradistinction to the idea which arises through the co-operation of the understanding? It is not the mere shadow,—to say that would be too little: neither is it the idea,—for that has reference not to any fixed individual, but to the dog as a general proposition: that something is phenomenon. As Plato has recognised with critical acumen, where understanding (*δόξα*) and perception by the senses (*αἴσθησις*) meet, there the phenomenon arises: and this whole picture of the cave may be held to be so far the most excellent, most popular representation of that which all criticism understands by the word phenomenon.⁴³ It is perception that stimulates thought to the formation of ideas, and it is from the idea that the phenomenon at last takes shape, and that too in a greater or lesser degree according to the stage of development of the *eidos-idea*, as we shall see presently. Plato, however, is determined to make further use of his allegory: the youth of Athens whom he is leading to the attainment of critical thought must be stimulated to

yet deeper recognitions : he does it with some passion. You yearn for things ? Plato exclaims—Well and good : ideas are the things ! If those cave-dwellers were to be set free and allowed to go forth into the light of the sun, then they would see the things themselves with their eyes. The picture is overbold : it is the Dionysus that speaks here ; it is the inspiration of intoxication, and we see exactly how the drunken man talks, how fantastically he insists, and yet knows perfectly that it is merely a question of a roundabout way which is to lead to new and profound discriminations. And indeed the audacious paradox is true enough ; the concrete being of things follows only upon their ideal being : without that they would remain mere shadows. This paradox is to render perceptible that central point of all critique of recognition which it is so difficult to put into words. You have already been taught that we must not speak of a Being off-hartd : the world and the Ego which carries it in its consciousness always arise first out of the meeting of two conditions,—Plato called it the meeting of Perception and Perceptibility, that was the psychological conception : again it meant understanding and sensibility ; that was said in a metaphysical sense : elsewhere he says, Divine and Mortal, that transports it into mysticism (*Symposium*, 202 E), or he talks of recognition and want of recognition, that is the logical expression (*Symp.* 202 A). All these different formulæ,—and there may be yet more,—imply the same thing : they imply that the Ego is something eternally incomprehensible, which as a point without size or duration is continually being created and creating, and in the process of creating hovers between two worlds. Every allegory for this recognition must necessarily place a man (the Ego), who has the one world before him and the other behind him, in the same position as the men chained up in the cave. If I look forward and backward

I find in front of me only disconnected shadows, behind me a something defying description, the shadow of a law, of a necessity, of a power of formation: if I leave these eternally indefinite distances, in order to face the foreground of both worlds, I see in front of me the world of phenomena, behind me the world of Ideas. But just as in the case of the phenomena, if I were to run a tilt at them I should run my head against the wall of the cave, so I realise that the ideas are not more actually behind me than the phenomena are in front of me. Plato teaches rather "Ideas are thoughts of which it is not to be held that they could be born anywhere else than in our souls" (*Parm.* 132 B). The allegorical adaptation of this picture ought not to have led any candid man, even if he were ungifted, to a materialistic conception of Plato's doctrine of ideas. For what is characteristic is the fact that man cannot "turn himself round," at least in this material sense: if he could, he would no longer be human. The essence of recognition is to stand between two worlds; speaking allegorically, to recognise is to mediate. "In the midst between the two is that full complement (*συμπληροῖ*) by means of which the whole is fastened into itself," so says Plato (*Symp.* 202 E): pure ideas, ideas which should have no reference to perceptions would be a nonentity, and so Plato says in another passage, "without seeing or touching or any other perception—for these are all one and the same to me—there can be no recognition" (*Phædo*, 75 A). The subjective idealism is by this means unconditionally cast aside, there is no room for it in critical idealism; for that allegory of the cave has for its object, as I said before, the rendering perceptible of the very inmost being of the soul, of the Ego, of the bearer of the world, between what we feel as object and what we feel as subject. The "turning round" however, which is grafted upon it, the representation as though the man when unbound

would recognise the ideas as true things, arises out of the need to give to that critical attitude of Life a plastic expression of a dissent from the common thankless empirical assumption, and at the same time to lay powerful stress upon the fact that without thought-form nothing can be recognised, and that this, in consequence, is the foundation of all things.

There is another allegorical expression which hangs together with this allegory, but which in many respects possesses a symbolical value, and about which much ink has been spilt during 2300 years :—participation (*μέθεξις*). On that cave-wall no shadows can show themselves unless there are objects moving in the background : the fleeting shadow-picture is not therefore the object, though it has a share in it, and is exactly conditioned by it. Equally impossible is it for a phenomenon to come into existence without an idea. A dog is not a dog until the idea “ dog ” has stamped it as such. If there were no formation of idea it would be nothing at all ; a very vague universal idea would allow it to appear on the horizon of our intellect as “ something in motion,” an idea in some sort more distinct as a “ living being ” and still more distinct as an “ animal ” : if perception and idea are still more exactly united, then we arrive at the “ four-footed beast,” then the dog, then the Spitz or the Dachs, etc. And, if we choose to reverse the process and proceed from the special to the general, out of the comparing our stock of ideas as described above, we then arrive at the series of the beast of prey, the mammal, the vertebrate animal, etc. After this manner does the formation of ideas swing to and fro, and in all these ideas the individual has its share. But this single individual has also a share in numberless other ideas, such as size, number, place, goodness, etc. I think that every simple honest understanding will derive instruction and stimulus from this allegorical expression of Plato's, namely, that the indi-

vidual subject "arises out of participation in such and so many ideas"; and yet, ever since Aristotle, it has been a matter of debate pro and con among philosophers, how this participation is to be thought of, whether as a mystic emanation out of the ideas, or as caused by a throwing off of particles, or as a sort of shadow, or any other possible absurdity; and the muddle-heads worship heaven knows what astral secret doctrine, while the understanding men turn away with Aristotle from all this folly. But in all of them it is the hopeless misunderstanding of the standpoint of critical recognition adopted by Plato and Kant in their method of looking upon the world, which lies at the root of the evil; for all these supposed difficulties exist only under the presumption of a world of empirical things, in which as a matter of accident Thinking now and again occurs; but if phenomenon is only possible in relation to Thinking, and thought only in relation to phenomenon,—if the Ego is as it were the inmost neutral point between the two worlds, then this participation, this *μέθεξις*, contains absolutely nothing mystic or at least mysterious in itself, it demands no "pre-established harmony" or any other hocus-pocus, but the participation is simply organic, that is to say, to be thought of as conditioning and conditioned. Our Thinking cannot attain to "Things" in that concrete conception, we can only attain to "phenomena." Independent, hypostatised ideas would be just as much of the nature of things, as those Things which we all so ingenuously hypostatise: they would be the mere ghosts of things, nothing more; on the other hand, it is easy to understand how far we may say that the phenomenon "participates in the ideas"; for they both come into existence together, they are united in the central point, "knotted together" as Plato has it; their whole being exists out of and in participation with one another; for participation implies reciprocity. The example of the dog shows how the

idea grows with exactitude, and that means with the wealth of the world of phenomena; that is why Plato advises every one who wishes for wisdom to lay to heart the cultivation of 'experience' (*empeiria*). Participation (*μέθεξις*) takes place in both directions.

All the same the disadvantages of this very palpable allegory were in dangerous proximity; the gate was open for intentional and unintentional misunderstanding: we can see it, and probably Plato himself had experience of it. And so he grasped at another allegory which has become just as famous, which expresses exactly the same thing, but in a far more delicate manner, which has not saved it from being even if possible more cruelly handled by our (*Βαυαῖοι*) vulgarians. The "turning round," together with the whole representation of "front and back" which is connected with it, admits of two conceptions and of two only: I can turn round in space, and I can turn round in time; to the "back" an "earlier" corresponds, and to the "front" a "later"; the past lies behind our backs, the present rich in future potentialities stretches itself out before our eyes. And so it comes to pass that alongside of the allegory of "participation" (*methexis*) we find the allegory of remembrance (*anamnesis*). In a former life "moving in the wake of God we had seen the truth" (*Phaidros*, 249); in the dimly perceived phenomena the recollection of that which we saw with an unclouded eye is by degrees awakened. According to this conception it is plain that ideas do not lie behind me in space, but behind me in time; in the one case we think *sub specie spatii*, in the other, *sub specie temporis*. The latter is far more delicate, for space is nothing more than the form of sensibility, whereas time stands exactly on the dividing line between sensibility and understanding, and belongs as much to the one as to the other; in this way time corresponds to that neutral point of the Ego, it is the "inner sense" as Kant calls it. We have two Egos,

the one in space, phenomenon, the other apart from space, idea ; time acts as intermediary between the two : idea and phenomenon here approach as close to one another as possible : what still keeps them asunder is an infinitesimal magnitude, that is one that may be thought of as being as small as you please, and yet never quite to be got rid of. Hence this allegory, famous in the *Phaidros* and the *Menon*, but also mentioned incidentally by Plato in many places, is imaginably rich in stimulus. The very conception that " we must have seen " ideas (*Phaidros*, 249 E), no matter when and where, has something of sunlight in it : that eye of the soul, of which we heard a while ago, seems to us to have been consecrated for ever by this view, and the one principle of criticism, namely, the doctrine of perception, as the one thing to which " all Thinking whether direct or indirect is referred " (*Reine Vernunft*, 1st §), finds poetical expression in this way. In this picture we find a plastic expression for the gradual refinement and equipment of the world of ideas in the intellect of the individual, or during a period of culture, a thing impossible in the parable of the cave-dwellers : for the shadow on the wall must remain the shadow on the wall, whereas remembrance (as is exhibited in the *Menon* in the example of the slave who understands geometry without having learnt it) may every day gain in perspicuity. Furthermore, this allegory gains special value for the criticism of recognition from the fact that it is precisely remembrance which lays the foundations for the formation of ideas ; how could I arrive at the idea " Dog " if memory had not stored up for me the material of perceptions ?⁴⁴ Apart from that, this allegory leads to the conception of immortality, and with that, so to speak, leads us away over the head of time to beyond time, and so teaches us to think of time as a mere form of Thinking and Seeing. In short, the Poet that was in the Thinker here celebrated one of his greatest triumphs.

I do not consider myself bound to go into the misinterpretations under which this allegory of the *anamnesis* has suffered down to the present day. Plato himself remarks in the *Menon*, in regard to *anamnesis* (86): "I will not go bail for what I have said"—and after the beautiful allegory of a former life in the *Phaidros*, the main source for the doctrine of *Anamnesis*, he excuses himself again expressly in that for the sake of Phaidros, who was the pupil of a flowery rhetorician, he had ornamented his speech poetically. There is just one thing that must be mentioned briefly,—the significance of the so-called "inborn ideas" (the *a priori* of later philosophers and also of Kant) within the *anamnesis* allegory. Here the door must once for all be bolted against vulgar misunderstanding.

Plato writes:—we acknowledge that we neither have made acquaintance, nor can make acquaintance, with ideas, otherwise than by means of seeing or touching or some other form of perception: but we remark that that which has been perceived by the senses (by which we mean *that which has been perceived*, what is now called the phenomenon, in contradistinction to *perception*), strives to attain these ideas, but never quite reaches them; that which has been perceived rather remains behind the conceived thought-form: we cannot therefore have deduced these ideas from that which has been perceived, but in every experience there must be elements, "which we received before we were born."⁴⁵ There you have the fateful "Inborn," the *a priori* with which centuries have been besotted, and out of which an *a posteriori* of that mere experience upon which little value is to be set was deduced. That was not what Plato meant: he was a critic of recognition, and those words "before we were born" are not to be taken literally as meaning a fixed place in time: the impossibility is palpable, since he himself expressly teaches us of

time that it is a form attaching to the mere phenomenon of things. "Time," says Plato, "was born with heaven (i.e. with the world of phenomenon) and must disappear with it: if we say of a thing that it was, that it comes into existence, that it will be, we are expressing ourselves inexactly, for time is only the rhythmically moved likeness (*εἰκών*, Kant's form of perception) of something which is without time" (*Timaios*, 37-38). Those words "before we were born," with that unfortunate abortion *a priori*, can be no more than a parable, for a "beforehand" can only be taken figuratively; and if Plato speaks of inborn ideas, and if Kant later has the misfortune to adopt the misleading expression *a priori*, we must understand that that does not mean anything determinate in time, or any historical pronouncement as to the origin of recognition. Within the frame of critical thought this would be senseless. We have rather seen that the two possible allegories of this group, the front and back in time, and the front and back in space, exactly correspond to one another: in order to arrive at a correct understanding of *a priori* and *a posteriori*, we shall do well to conceive them not only in time but also in space: for *a priori* means that which lies behind our backs, *a posteriori* what is moving in front of us. These words indeed should only furnish the expression of a topographical distinction, and topography taken in the sense of time is chronology. You remember that according to Plato's great discovery, recognition—(the world and the Ego)—is bred, and itself breeds in the neutral zone between two conceptions,

that bred thee, where thou didst breed,

in such fashion however that there always are two conceptions given, world and Ego, object and subject, etc., whether recognition be conceived as breeding or as bred. The *a priori* and the *a posteriori*, therefore, refer to nothing more than the two sides of this equation in order

to distinguish them. In the conception "idea" we think of this unity as breeding, that is to say, as active at the moment of splitting into two different directions : whereas in the conception of a *priori* and a *posteriori* the unity is conceived as bred of "something twofold," and therefore as passive. Thus whether you talk of earlier and later, back and front, or if you like it better, right and left, or even above and below, is a matter of complete indifference. In the main it is the same relation as that which I made use of in the former lecture as "inwards" and "outwards" for the schematising of the philosophical systems. The best image, however, to keep before oneself is that of the two banks with the river between ; a *priori* becomes the hither side, a *posteriori* the further side. We men by nature take our stand upon the bank of the invisible and look as it were across upon the visible as upon a distant object, and for that reason see it so clearly. Naturally, however, we look upon all that is on our own bank as homely to us, nearer to us in space, nearer to us in time, than that which lies over against us. And yet if one cannot quite imagine a contrary relation, still one can at least calculate that for a being which should by nature stand upon the other bank, thought-form, which for us is the Visible, would become something fleeting, difficult to grasp. Such a being would carry in its brain all possible perceptions, just as we have all imaginable ideas *in nuce* in our brains, and it would depend upon its genius and its methodical development whether it should be more or less fruitful ; it feels these perceptions to be its work, its property, its *a priori* ; whereas the categories, the fundamental conceptions and the whole host of ideas, in the Platonic sense, which, so to speak, make up for us the scheme, the architectonics of recognition which are fitted to us, would be for that being something to be set before it, an *a posteriori*, coming into existence gradually, bit by bit, and never

completed. Such an intellect which would find thoughts and natural laws and ideas of formation locked, and as it were entangled, in perceptions, would hunt for them as we do for rare plants and animals and collect them in thought-museums, and herbaria of the laws of nature, and in ideal casts, in order never again to lose them. It would preserve thoughts in spirits, and stop out all ideas, inasmuch as only perceptions would be lasting for it,—thoughts, on the other hand, evanescent and quickly disappearing. I only devote a moment to portraying this thought-farce, because it may be of service in impressing upon your minds the relativity of conceptions *a priori* and *a posteriori*. If we were to represent to ourselves perception (the world-ego) as something absolute, I mean if we men had the capacity really to grasp such a conception, those expressions would lose all meaning, even their allegorical meaning; but as matters stand, where everything for us men means *relation*, *a priori* and *a posteriori* lead to an actual, not merely logical distinction—to a distinction which lying as it does within recognition, is only capable of one metaphorical, figurative expression, for which space furnishes us the more highly coloured, time the more delicate, allegory.

I hope that these hints will have sufficed to define once for all that miserable *a priori*, what it is and what it is not: in Kant the fundamental thought occurs again in a more profound sense, and actually forms the foundation of his whole critique of reason; yet he calls every materially taken *a priori* a *philosophia pigrorum*, “a philosophy of the slothful”: so long as you connect it with the shadow of an “Inborn” or a “previous existence” to be taken literally, there can be no thought of understanding Kant’s method of looking at the world.

This may well bring to a conclusion our investigations into the permanent, and therefore symbolically valuable, mental attitude of Plato, and into the chief allegories of

his exposition, allegories organically bound up with his thoughts. Later on we shall come upon some more close considerations of the way and manner in which Plato distinguished between the different elements of recognition, that is to say, how far he pushed his analysis of the human intellect; that will be when an excursus which we shall shortly have to undertake shall have furnished us with a wealth of visible material. We shall proceed to this without delay. Plato himself never possessed complete critical clearness about this analysis, and so we shall have learnt more about the personal quality of his Thinking if we listen to him at work, than if we were to attempt a sort of artificial distillation of his so-called results. This will determine the next goal at which we should aim.

For Plato at work, as we seek to see him, there is one thing, which in all the dialogues is continually being repeated, which is specially indicated above all others, and that is that a determined fact,—by which I mean the perception of a determined fact as the result of exact observation,—is what in general instigates Plato to critical Thinking, and has exacted from him that attitude of “self-turning-round.” This one fact is ever and again raising itself up before him, questioning and exhorting. It is out of his wonder at this that his method, and in due course his philosophy, grow. He discovers, indeed, that every simple and fundamental question of general import, so soon as it is followed up sufficiently far with entire honesty in the attempt to ascertain something ultimate and definite, admits a double answer,—two directly contradictory solutions: each seems to exclude the other, and yet we men are unable to be satisfied with one answer only, but at one time accept the one answer as right, at another time the other, according to the standpoint upon which we place ourselves for the moment; it is a continuous pendulum movement to and fro, from

one extreme to the other, something like a scale with uncertain equilibrium, since every intermediary solution is excluded. Thus, for example, our reason judges that the world must have had a beginning in time, for every action presupposes a cause, and if there were no first causes, there could be no world to-day—but none the less must our reason approve the opposite proposition demonstrable by strictly logical means, that the world can have had no beginning in time, for how could a “first” cause have arisen without a previous cause? In the same way it can be proved that there must be final indivisible unities, otherwise no world could come into existence—(compare Bruno in our former lecture), and yet in the whole world it would be impossible to find a man who would dare to deny that any tiny particle of matter could be divided yet further. Kant, who in his inimitable way has finally cleared up these relations, calls this phenomenon of the human intellect its “antithetics,” that “is to say, the “conflict of conceptions,” or still oftener the “antinomy” of reason, that is to say, conflict between the laws of thought. And of that he says, “of itself and indeed unavoidably, reason happens upon these ‘antithetics’ and is thus guarded against the slumber of a chimerical conviction, which a mere one-sided appearance brings forward, while at the same time it is brought to an attempt, either to give itself over to a sceptical hopelessness, or to adopt a dogmatic defiance, and stiffly to take up certain assertions without allowing hearing and justice to the principles of the contrary side; both mean the death of sound philosophy.” Yet rightly understood this antinomy is “the most beneficent confusion which human reason was ever able to reach, since it ends in urging us to find the key which should set us free out of this labyrinth, which, moreover, when found discovers that which we did not seek though we need it.” In the case of Kant as in that of Plato it was this fact, this natural antinomy of

human reason, which urged him on generally to the critique of recognition, and acted as his guide by the way: in a letter of the year 1798, he writes, "it was the antinomy of human reason which first awakened me out of the slumber of dogmatism, and urged me on to the critique of reason, in order to remove the scandal of the apparent contradiction of reason to itself." And he admonishes us all, "I wish, therefore, that the reader should busy himself mainly with this antinomy, because nature herself appears to have set it up in order to stagger reason in its most audacious pretensions and to force it to probe itself."⁴⁶ This occurred to Plato, as I said before, just as it did to Kant: without having any special technical name for it, he still speaks everywhere of this natural antinomy, and on one occasion he introduces a so far little-noticed description of it which enriches the contradictory character of his affirmative method in relation to Kant's negative method with an almost touching example. Instead of feeling the conflict to be a "scandal" and of bringing forward a cross-grained abstract *terminus technicus* for it, Plato rather praises it as that element of our intellectual life, which urges, excites, and demands (παρακαλέω) critical reflection, and calls it almost by the same name as the Christians used later for the Holy Ghost, namely the Paracleticos, the caller and helper, who at the same time spurs on and comforts. For without the antinomy of reason, he opines, we should never even be aware of the closely confining wall of empiricism; it is that which first calls our attention to the fact that mere perception and formation of ideas by themselves "achieve nothing sound." It is only where every assertion calls forth the contradictory assertion, that we can be sure of grasping by the root the problem of the relation between sensibility and understanding, the visible and the invisible. (*Republic*, 523, etc.)

What then is this antinomy of our thought which

stimulates the critic, is the despair of the 'simple man, and excites the dogmatist to violence? On what peculiarity of the power of recognition does this remarkable irreconcilable inner conflict rest? Plato and Kant could alone furnish the answer, because they alone have observed in accordance with natural science instead of theorising. Kant, indeed, worked up the desirable analysis of recognition far more exactly than Plato, in whom it remained in a state of ingenuous simplicity; but for that very reason I hold Plato's conception to be more fitted perspicuously to communicate the fundamental truths which spring from this standpoint. Kant, moreover, where he is specially dealing with antinomy, in the heat of his battle against the pan-logicians, has himself fallen fairly deep into the sophistries of the centuries; that is at any rate how the matter presents itself to me; here one negation grafts itself upon another, till we no longer know how we stand; Plato, on the contrary, takes a large and simple view of the matter: in the first place then, let us follow him.

In the whole question of the antinomy of reason Plato sees simply a conflict between the invisible and the visible; what creates unity is the invisible Ego (understanding), what creates plurality is the visible world (sensibility). Without plurality there would be nothing. "By nature neither knowledge (*ἐπιστήμη*) nor opinion (*δόξα*) dwells in man" (*Menon*, 98 D), but without uninterrupted unification there would be no recognition, and therefore equally nothing.⁴⁷ We have already seen how Thinking, in that it creates ideas, creates a world. Here already Plato sees a conflict: Things resist, they refuse to be "idealised"; nor does a single being attain the perfection of idea as man in his independence imagines it. And so our aristocrat distinguishes between an upper and a deeper, between a genuine and a false, between a noble and an ignoble, indeed when the

inspiration, the *mania*, has laid hold of him, between a truth and a lie, between a something and a nothing : the one is the idea, the other the thing perceived, and that means the *eikon*, the shadow on the wall. This same mental tendency rules yet further. Everything that creates unity proceeds from the thoughts, from the invisible, from the Ego, and is therefore Nobility ; everything which makes plurality comes from the senses, from the visible, from the non-Ego, and is the Ignoble, the Enemy. The Law is what Plato everywhere seeks to discover and point out, to create and to impose : the law is not only the work, but also the essence of the Ego.⁴⁸ The simplest ideas, the ideas of things perceived, are indeed Laws : it is by them that countless single objects, i.e. perceptions, are forced to subject themselves to fixed thought-forms, to enlist under them. We have already seen (p. 54) that these thought-forms are according to Plato hypotheses ; all the prouder is the position of man : never is the idea of any single object, such as dog or beast, given to him by nature in the shape in which it lives in his intellect ; rather does he form it for himself, able to grasp it more widely or more narrowly, splitting it downwards, or fusing it upwards into more comprehensive ideas. Always the same object remains in view to fix that which is visible, and clarify it into something thought. " Whatever may be the cause which makes non-entity cross over into entity, poetic creation is always present " (*Symposium*, 205 B). For recognition is not something ready-made, it is far rather something more and something less ; it grows in proportion as the system of unifications is carried out more methodically and more perfectly. So, for example (*Menon*, 98 A), even right conceptions are blown away to nothing unless they are " bound fast " by " the reasonable comprehension of cause and effect " (*αἰτίας λογισμῶ*) ; it is by this means that true recognition first comes into being : in other

words, the Visible which is perceived would be no unity, no nature, unless Reason with its law of causality bound the single phenomena to one another ; and this law is *a priori*, is *anamnesis*, as Plato adds in the same passage, for it is causality that first makes experience possible. And as we from our standpoint on the bank of the Thinkable (the τόπος νοητού) suppose causality, so also we suppose Time : it is in it that cause works, in it that all phenomena are imprisoned without power of escape, it is time that binds, time that unifies. In the same way we suppose Space, the importance of which for the reduction to one unity of the various perceptions of the senses was clearly set out in the Descartes lecture, and of which Plato remarks : " This idea (of Space) it is impossible either to perceive by the senses, or to think of consequentially ; like men caught in a dream we represent it to ourselves by a sort of mongrel power, half senses, half understanding."⁴⁹ And so, without possessing a critical consciousness of this instinctive method of ours, we set one idea on to another, and thus bind the flight of phenomena more and more securely to one unity. It is only by this road that perception becomes knowledge, and only by this road that knowledge methodically applied by degrees becomes science. Science is knowledge brought into shape, in it we see what results man can attain through a consistent formation of ideas. All so-called laws of nature are ideas, that is to say, forms of thought, by which a plurality is bound into a unity ; naturally perceptions are at the root of all, just as perceptions lay at the root of the idea " dog " : but the law as law is a thought, one member in an endless artificial structure of thoughts. In this way we reach the antinomy of reason and become, as Plato says with simple grandeur, " unable to utter truth " (*Timaios*, 52 C). For every one of these unifications is an act of violence. Truly the will and the power to exercise it are a Promethean gift of the

Gods ; what makes man a man is the power of forming ideas. A *poietes* is man, the maker, the poet, the creator of thought-forms. But even poems are never quite in harmony ; there is always a hitch somewhere even in the artistic work of the highest genius ; for art is an intensive struggle for unity, and unity is a thought, not an empirically possible phenomenon. How much more must this be the case, when it is not art but the blind force pushing for understanding, for power, for domination, which is tyrannically and without reflection driving the whole race of mankind further and further in fixed and fore-ordained directions ! How innocent and how free from all possible objection it seems to include in the idea " Dog " all those well-known four-footed domestic animals, with different shapes, it is true, yet all unmistakably alike ! And yet modern science tells us that in living beings there are, as a general rule, no species but only individuals, in this way brilliantly justifying Plato, who taught expressly that all ideas, even those which are seemingly only appellative, are in truth not something given to us by perception, but the exercise by the human intellect of the power of " creation into being." At the root of this lies that primary antinomy, if I may so express myself, with which Plato was chiefly busied and which we just now made our starting-point : how is it possible for unity and plurality to exist side by side ? Unity, that is to say, not as one member of a series of numbers, but in contradistinction to the category of size and number. Without perceptions, and therefore without plurality and number, there can be no recognition, no world, no ego : without organically indivisible unities and unity, there can equally be no recognition, no world, no Ego. Who is to settle this conflict ? And yet, says Plato, it is out of this position " that unity is plurality and plurality unity, that every discovery has proceeded which had any reference to art (*τέχνη*) " (*Philebos*, 14 and 16). And in

whatever direction we look we find similar insoluble contradictions: the idea of space does indeed give us unity, and at the same time it gives us limitless expansion above, and limitless divisibility below; if we pose the idea of time we are then, in order to escape from endless absurdities, compelled to admit, that there is no such thing in the true sense of the words as "a former" and "a later"; the idea of causality renders us the incomparable service of binding fleeting conceptions securely to one another, and therefore into unity; but now it enmeshes us in the eternal *regressus* where we are tossed hither and thither between the necessity of a beginning and the impossibility of a beginning, without ever being able to find a solution. And so it goes on.

Kant's business then is to seek a philosophical explanation of these relations. With him it is only a question of "an apparent conflict," and indeed this conflict arises out of the imperfect distinction between our various ways of recognition, and also between our various recognitions. We do not only interchange understanding and sensibility, but also experience and idea, the Thing in itself and the Thing as it appears to us. He points out that certain antitheses (for example, the conflict of opinions in regard to the endless divisibility of matter) rest upon the fact that both the opposite assertions are false, since we silently transfer what are accepted as phenomena, which is exclusively all that we know, into real Things, as if we knew anything of a nature outside of human experience and the laws by which it is penetrated, whereas in the other antinomies the contradiction is a mere logical, not real, contradiction, since a law which holds good for the Visible, need not of necessity hold good also for that which is Thought, and vice versa; so that two contradictory assertions may both be true at the same time; as for example, when the antinomy wishes to impose upon us the choice between freedom and necessity,

whilst experience teaches us that in fact both stand side by side.

We shall have to return to Kant and his solution of the antinomy of reason : I only wished to call your attention in passing to the possibility of a critical solution.⁵⁰ For the present let us confine ourselves to Plato. He takes the question differently, quite simply and practically. He just takes the contradictions as granted and impossible of solution, and asks, which side am I to join ? The answer is at once, the side which builds up, which creates connections, which works out laws, the side which gives knowledge and promises increase of wisdom, briefly the side which forms ideas, the side which " strives to see unity in plurality " (*Laws*, 965 B),—let the senses make the best they can of it. It is his business to do the deed, to achieve that " formation " which he perceived as the soul of the Greek word *idea* ; to that end is criticism to serve him. It is not possible to deny that the importance of the Visible is often undervalued by him : our excursus will furnish us with accurate information on that point, and so teach us to recognise the vulnerable Achilles-heel of Platonic perception. But let us not forget : Plato was fighting against a people of thinkers who were ingenuous enough to believe that they were proceeding empirically, when they looked outwards upon nature and passed judgment upon it without more ado (Heraclitus) or when they looked inwards into themselves, and just as ingenuously questioned their logical sense, and accordingly delivered equally unconditioned judgments (Parmenides) ; a critical insight into the way in which human recognition arises, and how it by degrees arrives at the science of nature, and can lead to the fundamental refinement of the Ego, is something which no man possessed before him, no man at the same time with him, and no man since him : we may even say that we are no better off to-day : and so he was forced into the one-sided insistence on that

which he had recognised as decisive for the knowledge and dignity of mankind. What you must learn to perceive is this, that even if Plato proceeded one-sidedly he did not do so as a mystical fanatic, as the founder of Heaven knows what confused ideas hovering over fairyland, but as the only man who understood the essence of our knowledge, and as the true founder of all genuine conscious science—science in contradistinction to vulgar empiricism, to logic-chopping, to superstition, and to the scholasticism which was already beginning to dawn in Aristotle,—in brief, as a man whom we might all hail and welcome as our saviour out of the intellectual chaos with which we were threatened.

We have now reached the central point : we now see Plato at work ; and here therefore it is meet that we should understand him exactly. We must lay bare the antinomy in our own Thinking and Seeing, show it at work in ourselves, experience in ourselves what Plato experienced in himself, and thereby learn to understand why, in the interest of culture and science, he was forced to prefer the one direction to the other, by which it will be clear how it was that Kant's more exact criticism detected and overcame the one-sidedness in Plato's manner of seeing. I think we had better seize the question at a point where the inevitable logic which rules in the invisible, at least swims in a luminous sea of material for perception'. The one great antithesis between unity and plurality crops up in very different forms, and I hardly know any antinomy which would serve our purpose better in this connection than that between Being and Growing into Being. Heraclitus taught that there is only one Growing into Being, one eternal flow : Parmenides taught that there is only one Being, one eternal immovable : it was in the echo of these two schools, each of which had taken one of the two antinomic theses as its dogma, that Plato

grew up and came to the opinion that, " Just as children, to whom we offer the choice between two dainties, covet both, so the sage has to say of the Whole,—both that it is immovable and that it is moved"—that is to say, it Is and it Grows⁵¹ (*Sophist*, 249 D). That was the lesson taught by the critique of recognition. Yet he thought himself justified in adding : knowledge only comes from the immovable (that is from our permanent thought-forms, not from fleeting perceptions), and genuine science comes only from Being, not from Growing into Being (cf. *Philebos*, 59). There you have the core of the central point.

We might now of course take this antinomy of Being and Growing into Being in general and survey the whole cosmos; but in this way we should soon fall into Brunonian abstractions; on the other hand, there is a domain where both,—Being and Growing—are in the focus,—where Being is existence and where Growing is not like chemical combinations or physical forces a mere transformation of x into y , or mere additions or subtractions, but an entry upon the stage of appearance of something which was not there before, and signifies an eternal vanishing from that stage : I am speaking of life. There is no true Growing outside of life, but only surrounding forces; but when the child grows into a man,—when the being which to-day crawls in the shape of a caterpillar, to-morrow flies as a butterfly,—that is a Growing in the true meaning of the word. A little reflection will show that in the same way we can only speak of Being, in its real sense, in reference to life : only that which Grows Is. The application of the two words to that which is without life occurs through want of thought, and has only an allegorical value : at the root of this lies the notion of children and savages that everything has life. Not only does this antinomy grow in our own selves—which after all might be said of every other antinomy,—but we experience it day after day : for every one of us

feels himself to be unchanged, at a standstill :—if that were not the case he would not recognise himself, he would be no Ego—and every one of us at the same time knows daily by experience that his Being is a Growing ; here we have the fundamental antinomy of all antinomies. So we will take into consideration the antinomy of Being and Growing into Being only in the focus of life, and insert here an excursus upon the essence of life, in the hope of arriving thereby at some not unimportant instruction as to Plato's way of seeing and consequently upon that of Kant also.

Here, after the manner of the ancients, we must invoke the aid of the Muses. It is terribly easy to give the reins to our fancy in dealing with the great problems of nature : that has been the custom in all times and is so to-day more than ever. Let us take as our guardian angel that Sophrosyne, discretion, whom the Dionysian philosopher is never weary of preaching,—the discretion of the inspired. Here we have to grapple with burning questions of the day : but if we follow the signs given us by Plato and Kant, we cannot fail to recognise in these days that the whole question of life is set forth falsely, and that therefore the debates carried out with the passion of an evil conscience about Darwinian selection and Lamarckian heredity of qualities, etc., all of them unheedingly pass by the true problem. Modern biology stands at the same point where the great Ptolemy stood as astronomer, where Albertus Magnus stood as chemist ; it is striving after the impossible : and even though it should bring to light many facts, as they did, it yet remains impossible to exhibit clear recognitions conformable to truth, except where they are based upon intelligible and correct conceptions of the subject. If, in our endeavours to imitate Plato, we could succeed in

mastering a few such fundamental recognitions, we should have gained much towards the understanding not only of Plato himself but also of the problem of life. Only it is necessary that the exposition should perforce remain within the line of theory ; that is the result of our plan, and also of the necessity of not allowing this lecture to assume undue proportions ; an exposition of the new Platonic doctrine of life as it reveals itself to me with all the vast material with which it is enriched would, even if kept within the narrowest limits, require two large volumes. I only wish to point out that I have been studying the subject and collecting material for twenty years, so that my brevity is not open to the charge of flippancy. Again I must not be suspected of a wish to substitute metaphysics for observation ; the object which I have before me is the liberation of perception, of that " world of the eye " spoken of in our first lecture ; I believe that our Thinking—our Thinking, that is to say, with reference to life,—will be the richer if we possess a freer, and consequently purer and more truthful, perception. Plato, however, teaches us that the bodily eyes only learn to see by " the eye of the soul " (*v. supra*). We put forth ideas like antennæ,—they are, as Plato calls them, " carriers," that is to say, they are like boats which ferry us over from the shore of the country where Thought alone exists, to the opposite shore where Seeing reigns supreme. It is therefore a matter of much importance in our recognition of nature, how our philosophy is conditioned : it can either cripple every unfettered perception at the outset, or it can lend it wings. We must know that we are just creators, and that we are facing an ever creative nature as its children. Our Being is a Growing : so our understanding must be fluid, progressive, an effort of will. Here, as everywhere else, two things meet, and it is not until they join hands that the spark of light comes into being ; a pure mere empiricism is

impossible,—the very thought of such a thing is folly. Our science of mechanics did not arise out of observations only, but out of ideas creative, obstinate, if I may use the term, amplified, supported, perfected by observations ; indeed the ideas came first, and after them the observations in which the ideas verified themselves ; in the same way it was out of creative ideas, also in their turn powerfully dominant, that our modern science of energetics arose, whereas our biologists delude themselves with the belief that empirical theories such as those of Darwin are sufficient foundation, without ever having attempted to grasp the problem of life itself with a bold, human self-mastery, as Galilei did with matter, and Robert Mayer with energy.

The sharp distinction between Matter and Force is the foundation of our whole Teutonic science.⁵² Descartes was the first to maintain it systematically, inasmuch as he not only teaches the inertness of matter and the imperishability of the sum total of motion (that is to say, of the sum total of force) in the Cosmos, but is for ever impressing upon us that the forces are not to be ascribed to bodies in motion as “little souls.” Yet it was extraordinarily difficult to bring home to men constructive thoughts of that sort ; it was only practical success in a smaller field that possessed the power of persuasion : here lies Galilei’s immortal merit. His works upon the foundations of pure mechanics succeeded little by little, very slowly and imperfectly, in naturalising the conception of the inertia of matter, that is to say, of its neutral persistence in every condition, whether of rest or of motion ; for the “little souls” were yet there, and so long as that was the case, that unconditional inertia of matter was rather a mathematical fiction than the recognition of a truth ; the practical application of it had been taken over from Galilei ; but men had not followed his thoughts. Newton certainly said that the conception of

the power of attraction, introduced by him and thought out with such lamentable anthropomorphism, must not be held to be a physical cause, but that it far rather served as an expression for mathematical relations; but even the Physicists until lately took no notice of that; and down to our own times the majority of laymen when they hear of the attractive power of the earth or of the sun, see hovering before them a secret force of these bodies stretching into space as if they were putting out invisible tentacles and clutching at everything.⁵³ It is just sixty years since Robert Mayer once more took up the idea of Force, of which Descartes and Galilei had had a premonition, purged it of all confusion and mysticism and attained for it scientifically clear, mathematically intelligible, conceptions: and even in the 'fifties of the past century, when Joule in England and Helmholtz in Germany had trodden the newly indicated way, Mayer, who was by profession not a physicist but a physician, was denounced as an officious dilettante by the majority of professors, and had to suffer such cruel abuse, that in his violent excitement he became delirious, and threw himself out of window. He brought "confusion" into physics! that was the opinion of men who had had exactly two hundred years in which to await the arrival of a rational theory of Force: his doctrine of the transmutation of motion into heat, and the converse, was "completely unscientific!" his "pretended discovery"—the law, that *there is in truth only one force, it is a constant magnitude*—was untenable, etc.⁵⁴ So slowly are ideas wont to take root, indeed precisely because they are "ideas" in Plato's sense, because they do not occur ready-made out in the open as "Things" which we can grasp by merely stretching out our hands, but must, on the contrary, be bred by the human intellect. And yet it was this "idea" that first made genuine physical and chemical science possible; a correctly thought out new

idea bestows new perceptions, new experience in a wealth up to that time unsuspected. The whole proud edifice of our modern physical chemistry rests upon the idea of Robert Mayer as he set it forth in a few short works, and that too in so perspicuous and simple a form that every cultivated man can read his essays with enjoyment, and ought not to neglect doing so.⁵⁵

There are individual investigators whose whole Thinking is devoted to the solution of fixed problems, who still further subtilise such fundamental thoughts as the now finally settled distinction between matter and force, or to speak more strictly between mass and energy: there are certain physicists who regard Force as consisting of the most minute particles every one of which has its fixed immutable place in space, where it is for ever changing its manner of motion, which amounts simply to a materialisation of Force; whereas others who are in a majority take the converse way, preferring to disregard atoms and matter, that is to say, resolve them into Force: but these are things with which we need not deal. Nowadays if any one materialises Force he does so only for a special purpose: he wishes to show intelligibly the transmutation of motion into heat, of heat into electricity, of electricity into light or into chemical force: if, on the contrary, any one has as his object the resolution of the world of the senses into empty space with centres of Force, he does it upon paper, in the interest of his calculations; the division into Matter and Force has been attained and can never again be lost, it has been worked out more and more clearly.⁵⁶ If we were in earnest to give up matter as inert and impermeable, as the passive "nothing," as that which is devoid of all entity—τὸ μὴ ὄν, as Plato already recognised it,—if we were seriously to renounce looking upon the Forces as "imperishable mutable" phenomena of one single Force, as Mayer says in his first publication of 1842: if for the sake of some delusion

we were to give up the closer definition which Helmholtz gave in 1862, "the sum of the operative masses of Forces in the aggregate of nature remains eternally the same and unaltered throughout all changes in nature"; then in that case our whole science, and more than that our whole immeasurably rich capacity for perception, would be annihilated.⁵⁷

What we still lack is the recognition of the fact that Life is a Third Factor, that Life is neither Matter nor Force, nor yet a creation of Matter *plus* Force. A rescue from the chaos into which we have daily fallen deeper through the monstrous mass of empirical work, is only possible through the recognition that the modern doctrine that Life must be explained by Matter and Force and the laws which govern these, is just as senseless as the presumption of previous centuries that the Forces hung on to the particles of matter like "little souls." No one will care to deny that we arrived at the conception of Force only by observations of Matter; we have just seen that a clean distinction between Force and Matter is only the work of the most recent years: this distinction was required in the interest of exact science, and it has at the same time acted as a stimulus upon our whole philosophy. In the same way it is in the interest of exact investigation and also of our whole Thinking to introduce the idea "Life" as an independent idea, outside of "Force" and outside of Matter.

Lichtenberg somewhere calls the mathematical-mechanical tendency of the intellect "the soul of unorganic nature": that is a very refined observation. In order to grasp the soul of organic nature we shall probably have to make a more important place for the utmost possible pure perception. Matter and Force are from the very beginning abstractions: they are in the first place thoughts, and then we at last find them in experience; Life, on the contrary, is on the one side personal experi-

ence, on the other side direct perception. • That is why I believe that Life will first reveal itself in that "world of the eye" of which Goethe spoke (Lecture I, I, p. 48). That which I as man have directly received is Life, and not that which is lifeless. What my senses feel about Nature, what my senses feel about myself, about Life, that is in very truth Life itself. Life leads me to nature. It is therefore illogical, illusory, unscientific, to direct all our energies upon understanding Life from that which is lifeless.⁵⁸ That which is material in life is chemistry, that which is energetic in life is physics: there is in addition the Life of Life, that which holds under its spell Matter and Force, and that is Form. Just as the comprehension of matter *plus* energy consists in an appreciation of the relations of movements, so a comprehension of Life becomes an appreciation of the relations of Form. There is, if I may so express myself, far more to be seen in Life than in the Lifeless, and moreover that which is seen there stands upon a higher level in dignity, or importance, or contents, or whatever you may please to call it. If, as we saw in the second lecture, Thinking extinguished light as light, and substituted for it nothing but putative, imaginary schemes of motion, that signified one method of understanding Force and Matter: but as soon as the so-called ray touched the eye, that is to say, as soon as Life called "let there be Light," what would an unseen Light mean? There physical explanation abdicated, not from any fault of its own, but because Life is something different from Matter and Force, and therefore here other principles come into play. .

Allow me at once to forestall a possible misunderstanding. Just as Force is only detected in Matter, so Life is only detected in Matter and by Force. Where in nature we find no material foundation for the phenomena of Force, we invent it and speak of æther: and we are right in so doing: where we are at a loss for Matter and Force in

the interpretation of the phenomena of Life—(and that we are so at a loss in all directions will be proved to you by every serious work of recent years about physiology and the biology of animals and plants)—then I maintain that we are bound to invent Matter and Force, at any rate if we wish to deal with exact science. Certain modern investigators of nature, precisely among those who have a clear vision and are unable to content themselves with phrases, hold that a really satisfactory mechanical interpretation of Life is impossible, and that it is necessary in some shape or other to reintroduce the conception of "the Force of Life": they call themselves "vitalists" or "neo-vitalists": some go so far as to wish to introduce the conception "soul" into scientific biology: here, however, I think there is a failure of philosophical insight: it is not in the phenomena but rather in ourselves that the law is based by which we are to interpret nature mechanically: from that law we are bound never to move a step. It is certain that Physics and Chemistry will never suffice for an exposition of the phenomena of Life; this assertion has risen to the dignity of an axiom. Still, Life is Form, and Form can always be attained mechanically; the talented American zoologist Edward Drinker Cope has, perhaps unwittingly, here given us important contributions, or at any rate indications.⁵⁹ Every departure from this principle of the inevitable mechanical interpretation seems to me to be unconditionally unwarrantable. Materialism, mechanism, as the final perfection of reducing all phenomena to equations capable of being formulated mathematically—here, I am of opinion, is contained the essence, the justification and the method of our exact science;⁶⁰ and that is why the expression "Life-Force" is if possible more hateful to me than it is to the narrowest-minded anti-metaphysical empiricist, it makes for nothing but confusion. To the idea Life-Force there should correspond an idea Force-Matter, a confused

conception, according to which Matter would be invested with occult properties by means of which all the services which have been rendered from the times of Descartes and Galilei down to Mayer and Helmholtz would be reduced to nothing. The way of the future leads in a diametrically opposite direction, that is to say, to the final and definite separation of the idea Matter from the idea Force, and of the idea Life from the ideas Force and Matter.

Here I may perhaps be taunted with the reproach that what I wish to introduce as idea,—Life as a phenomenon of nature *sui generis*, is something uncertain, inconceivable, enigmatic, a new problem, a word rather tending to the dissemination of confusion. The reproach would not be justified, any more than were similar reproaches addressed to Mayer in his day. A superfluous augmentation of conceptions and nomenclature of objects, dear to many of the investigators of nature, does indeed confuse the understanding, for things in that way at once crystallise into words and are forced out of their living connection: but to introduce a new fundamental idea where for want of it conceptions are heaped up in chaos, can only serve to make matters clear, and the understanding of a true idea always arises in the first place from its application, and not out of an attempted definition of it. Nothing in the world is less comprehensible than the idea Matter, if once you abandon the simple perception in order to think more deeply over it. "The dark clod that we think of in spite of ourselves, is sought for in vain outside of our own thought"—so says Ernst Mach;⁶¹ and a hundred and fifty years before him, Helvetius, the systematic materialist, had said: *les hommes sont, si j'ose le dire, les créateurs de la matière*;⁶² in the end there remains nothing but a vague conception of expansion, so that Plato in his *Timaios* identifies matter with space, with that space which can be neither

imagined nor perceived⁶³ (p. 72). As for Force, Heinrich Hertz warns us against any definition of this conception with the words,—“can we exhaustively interpret the essence of any thing by our conceptions, by our words? certainly not.” If you open any handbook, you will find definitions of Force and Energy, but you will not understand them:⁶⁴ if you work for a few months at physics you will know what Force is, and you will perceive why such an idea, created out of perception, coined upon perception, and yet abstract, cannot be compelled into any fixed mental definition. In the passage to which I have alluded Hertz goes further and sets forth that in all ideas (he calls them Signs), the only important thing is whether or not they contribute anything to the explanation of the relations between our perceptions, whether they call up contradictions or rather sweep away contradictions and facilitate connections. If, according to modern fashion; we talk of Matter and Force,⁶⁵ we detect an equation between two unknown factors; if we speak of Matter, Force and Life, then the equation has three unknown factors: every mathematician will tell you what a help it means to calculation, when complex expressions, not perspicuous to us, can be broken up into elementary parts. And it must be obvious that even if Life is just as incapable of logical definition as any other fundamental idea, this idea is in spite of that more perceptible, and therefore also more comprehensible, than the idea of Matter or of Force.

My very first duty is to compel the conviction that Life is neither Matter nor Force. The difficulty in this undertaking is that it is so easy,—too easy for it to be possible to speak well upon the subject; there is no room for argument, no room for rhetoric; it is just an exhortation to open your eyes, nothing more; if I said this my hearers would think me either childish or contemptuous: you might tell me that without any instruction from me

you know what life is, that you are not in the habit of mixing up that which is living with that which is not living, the organic with the inorganic : yet in all humility I must admit that I doubt the correctness of that assertion ; I believe that we are all of us continually mixing up Life with that which does not live, just as for centuries we have been for ever confusing Force and Matter with one another. Nor can it be otherwise so long as we do not possess a fully clear appreciation of that which constitutes the fundamental distinction. Plato indeed had comprised everything that lives in one single unity, and said, " the plant awakens special ideas and perceptions, and forms as it were another species of animal (*ἡσὸς ἐρερον ζῶον*) . . . yet according to its essence the plant is just as much a living being as the animal " (*Timaios*, 77) ; and this aggregate of life he places in opposition to that which is not living. There, however, we had the Godlike genius of this one man : no one understood him ; and he was hardly dead when Aristotle taught that there was " a gradual transition from that which is not alive to that which is alive, and that it remained a mystery where the one began and the other left off." The " race of plants " occupied a middle position between the two, and formed a series of stages from those plants which hardly possessed a spark of life, up to those which had almost as much life as an animal (*Animal History*, VIII, 1, 2). That all this, collectively as well as singly, is radically false, and indeed senseless, needs no proof to-day. The smallest single-celled alga is absolutely as completely " life," as widely separated from inorganic matter, as man himself ; and the most modest of the single-celled infusoria is as capable of motion as the elephant, and is in some respects of more complex construction ; moreover, there is no gradual transition from plants into animals : it is rather the case that they meet below, and so Plato was quite right in comprising them as two twigs of one

unity. Yet in spite of all the teaching of a more exact knowledge of nature, the Aristotelian error and the Aristotelian blindness are growing rankly in us all, and even in our science. Only a few centuries ago the men of learning were busily trying to brew homunculi in retorts. In spite of the fact that the most brilliant experiments of the last century have finally shown that not the most minute phenomenon of life, such as a bacterium, can be brought into existence otherwise than by a similar bacterium, that Life cannot arise out of that which is not living, but only out of Life itself—in spite of all this, spontaneous generation, which is neither more nor less than the arising of something out of nothing, remains an axiom of our science: we banish it in time and occasionally also in space, yet the dogma remains, and if we consider it carefully our whole method of explaining Life by Matter and Force is nothing more than “spontaneous generation” under a mask,—a disguised adherence to the Aristotelian heresy of a gradual transition from the inorganic to the organic:⁶⁶ and that again is neither more nor less than a higher form of alchemy. So long as such thoughts are possible amongst us, we are still shrouded in the spirit of the Middle Ages, and we have not found our way out of the mouldy catacombs of scholasticism into the free air of nature.⁶⁷

We shall have to come back upon much which I have here only lightly touched upon: for the moment I must be satisfied if I have raised in you some little mistrust of your own judgment, and perhaps awakened in you the suspicion that we are dealing with a reaction towards simplicity, never a thankless task but generally a difficult one. Now we will convince ourselves by a perceptible example that the ideas which lie at the root of Life are different from those upon which Force and Matter are based, from which it follows at once that the Idea of Life must be autonomous.

There are two comparisons which you will meet with everywhere. In the one the forms of life are compared with crystals: in the other we hear of a "circulation of life," in which the conception of the circulation of the heavenly bodies forces itself upon us: in the first case Life is explained as essentially related to Matter, in the second to Force. The first image, that of the crystals, is taken not only as an image, but also as an approximate expression of an actual condition of fact, so that it is given in almost all handbooks, and an investigator of the importance of Nägeli has made use of it as the foundation of his whole theory of life; ⁶⁸ but the second image, that of the gyrating heavenly bodies, which Humboldt delighted in using, and Moleschott made popular, is for the most part not looked upon as an image, but as an exact representation of a condition of fact. And yet both comparisons are radically false: in neither is there either homology or analogy, or anything more than a deceptive, misleading illusion. It is true that a crystal possesses a Form, a fixed form conditioned by mechanical laws: ⁶⁹ but this form is not shape in the only true sense of the word; for shape implies the unity of the manifold, whereas it is the essence of crystal that every minutest particle is identic with every other particle as well as with the whole. ⁷⁰ But where every part is identical with every other part, and every part with the whole, there can be no parts reciprocally conditioning one another, and where there are no parts in this sense, there equally cannot be any "whole" which could be called a "unity" in the right acceptation of the word. Plato says correctly (*Parm.* 157): "it is impossible to speak of parts in a plurality, but only where an ideally comprehensible unity has become a single whole by the union of the many. Only in such a case can we say that a part is a part." In crystals we have to deal with an external system of deposit and accumulation:

the conception of a Whole necessarily fails, since there is no unity originally formed out of parts, and no parts which separated from the Whole would become fragments. It is true that in a crystal there are directions which may be expressed, but the limits are a matter of chance. A quartz crystal, or a crystal of feldspar, may be so small that only the strongest powers of the microscope can detect it : and yet examples of both are known which measure several yards in length and breadth ; between the former and the latter there is no difference. A quartz crystal might be a mile long, it might reach the length of the distance of the sun if it stood upon a sufficiently large heavenly body. Indeed, although the conception of space is coined together with the thought of matter, matter is itself indifferent to space : limitation, and with it shape, is here as everywhere else, created only by Life : outside of Life, if I may so say, all matter and all force is at command, and that means the "unlimited." Whether a crystal is great or small, regular or irregular, is a matter of chance, that is to say it depends upon extraneous conditions : a form which does not limit itself by its own powers, depends upon chance. Equally indifferent is a crystal as to time : it is destroyed by extraneous causes, earlier or later, in five minutes or in five billions of years : in itself and by itself it is eternal, or, to speak more correctly, without time,—but only because inertia is the fundamental law of all matter. And now, before exhibiting the contradictoriness of Life, let me at once skip to the second image. It must be understood that those two pictures which are apparently so different are in their essence identical. Just in the same way as matter is isolated and fixed in the crystal, so is Force isolated and fixed in a planetary system. Here Proteus is fettered and held fast. In the regular interchange of the "energy of movement" and the "energy of position" reciprocally conditioning one another, the planets gyrate round their

sun, and the suns move in relation to each other. Nothing short of the breaking up of the system could set free the imprisoned Force. Exactly like the crystal, the system of the stars is also a fixture. Equally it is without time. For that which is of its essence imperishable, and can at most be destroyed by extraneous disturbances, has no duration. In a circular line it is impossible to detect any difference of value between two points, it is only that which has a beginning and an end that possesses duration. So it comes to pass that that which gyrates is the symbol of that which is without life ; for what we conceive as motionless rigidity is in reality motion ever returning into itself. And so according to the hypotheses of our physicists the single molecules out of which crystals are built up by hazard, fare exactly like what takes place in a planetary system : it is not possible for us to find another symbol for that which has no life.⁷¹

These few considerations should suffice to convince us of the fact that Life is something different from Matter and Force. In the crystal the fixed form is effect and not cause ; the existence of the matter concerned in no way depends upon the perfecting into crystalline shape, to which it remains entirely indifferent. Basalt is just as perfectly basalt whether it be amorphous or hexahedral : water may be frozen into ice or vaporised into steam : the chemical body remains the same, which I can at any moment transform again into fluid water : none of these processes have the remotest analogy with a true Growing and Passing away, with Birth and Death. An atom of oxygen, as a part of air, floats over the earth with nitrogen, argon, carbonic acid, and aqueous vapour ; inhaled it enters the blood, circulates perhaps as part of a blood corpuscle, is converted by the organism into all manner of complicated metabolisms, reaches the liver and thence the kidneys, comes out as part of the water molecule H_2O , is bound up into a stone with silicium in the earth—and

so forth. And whilst this absolute inertia is the essence of all Matter, the essence of Force is consistent change, without however any possibility of speaking of transformation (in the true sense of the word), in the direction and the momentary scope of motion without beginning and without end, since the reflex change is going on without a break: the metamorphoses of Force may be compared to those of a kaleidoscope, not to those of a Form: the energy which at one moment manifests itself as gravitation, at the next works as warmth, then transforms itself into stationary or moving electricity, blazes up as light, distributes itself again as warmth. . . . Force is indeed a Proteus: the only thing which is steadfast in it is motion, changeable motion. And so this Proteus forces its way from outside into living form, within which it changes itself into all manner of different motions and then bursts out again; the form of Life has remained unchanged, as long as it lives; for if it ceases to live, then Force, the great annihilator of all Form, has quickly laid it in ruins, scattered it into dust, dissolved it into nothing.

To sum up. Matter is indifferent to all Form: Force destroys Form.⁷²

It is a law of our Thinking that we can only clearly grasp an idea when we fix that which is permanently steadfast in it, "the necessary being of its growth," as Plato in his direct way expresses himself. And so our exact science has rightly settled that the idea matter is based upon one steadfast single condition, upon which alone depends its conception,—that of inertia. All other so-called "properties" of matter, which are still to be found in the handbooks of the nineteenth century, have disappeared out of the modern books: they can all be reckoned as proceeding from the idea inertia. Here, as must be evident, I am painfully anxious to steer clear of metaphysics. Kant might have taught us a hundred

*years before the physicists, that the conception of inertia alone corresponds to the category of matter;*⁷³ still I should prefer to remain for the present so far as possible in the domain of empirical perception, and there we recognise as a consequence of our anti-metaphysical natural science, that that which is steadfast in Matter, that which constitutes the essence of this idea, is inertia.⁷⁴ In the same way it has been laid down that the essence of Force is motion,—motion with a strong stress upon the allied meaning of mutability: Force is that which is movable and mutable.⁷⁵ If then we say with exact science, Matter is inertia, Force is mutability, and if in the same way we ask ourselves, what in Life is the Being of Growth, the Persistent, the Essence,—the answer will not be doubtful: Life is Form.

Neither in Matter nor in Force have we found anything which could have even the slightest analogy to true Form. For the "shape" of the Matter in the "eternal silence" of the crystal was only the expression of certain mechanical lines of direction,—apart from that it was a mere matter of chance, transitory and without significance; and if within force, considered as one unique whole, we do in a certain sense distinguish different forms from one another,—as for example Light from warmth, electricity from Light, this relative formation is the work of all-informing Life. Light as well as warmth, considered as a manifestation of Force, is mere motion, nothing else, limitless, formless: we living beings, who are defined or limited unities, create certain fixed relations to a "surrounding" to which we give form inasmuch as we impose limits: these relations are more or less numerous, more or less widely developed in proportion to the organisation of the living being,—that is a matter of no importance: the only thing is essential: we are Form, and, since we are that, we inform everything with which we enter into relations, as necessarily as we take nourishment

to be digested and assimilated. Neither space nor time, as we have seen, and that is to say not even the first elements towards any limiting power of information, possess any conceivable sense if applied to matter and force outside of all relations to living beings. All life, on the other hand, has a necessary beginning and end in space,—a necessary beginning and end in time. The Life of the individual has nothing of the nature of a circle,—it does not lead back to the starting-point. The straight line, the line that leads from one place to another distant place, that is the symbol of Life. In the circular line every point is equal to every other point, since in truth no point can be distinguished from another, and consequently there is no leaving the spot : in the line of Life, on the contrary, every point is essentially different from all points that have gone before and from all that follow after, and only Form remains persistent. There can be no such thing as space for a homogeneous mass, but only for a Whole, the parts of which take up different positions in relation to one another ; it is in the distinction between Right and Left that the conception of space is rooted.⁷⁶ Time only exists where one moment can be distinguished from another ; time is transition and exists only through Life, in Life, and for Life : that is why the Indian Sage was right when he said, “ I am not in time, but I am time itself.”⁷⁷ For that reason we may also say, Life alone truly “ is,” for Life alone possesses duration and existence. But we have seen that that which has persistence in Life is shape ; transitory, limited, creating time and space, it is at the same time intransitory: for the fundamental shape has in the meanwhile, either by gemmation (reproduction by buds) or by generation, arisen anew, and thus Life gives us, together with the conception of time, the conception of eternity,—both, not as abstractions, but as perceptions, that is to say, as direct experience.

Just as we derived matter from inertia, so in Life, out of this fundamental conception "Life is Form," we can annex and derive everything with which observation furnishes us.

What in the first instance concerns the relation to matter and to Force is, I repeat, the palpable fact that just as Force can only reveal itself in matter, so also the Life-Form can only reveal itself in matter and that only with Force as intermediary. That, however, is far from saying, in accord with the schoolmen, that Life-Form is created through the two principles Matter and Force which are hostile to all informing principle. What we in the abstract call Life, and in the concrete, Form, forces into its service Matter and Force, the two principles which may be separated in thought, but never in experience: yet, far from being a creation of Matter and Force, Life is one unintermittent fight against them. Life is not inert, but active in opposition: Life is not changeable but, on the contrary, persistent in all motion, in spite of all motion, and against all motion; it is Form asserting itself to the utmost possible extent. But in the long run no living individual can hold out against the two hostile powers, Matter and Force: the elements of Matter and Force which have been compelled to serve in the building up of Form for ever slip through his fingers. And then what remains? The new individuals consist neither of the same particles of matter, for these have been wafted away into space, nor of the identical motions of the forces, for time has devoured them: what remains persistent is Form. This is the essence of life; in order to understand that we only need to open our eyes.⁷⁸

Now, lest I should lie under the suspicion of dabbling in Heaven knows what mystical natural philosophy, whereas in reality I am fighting against the mummery of the modern school, I will here bring into court one of the recognised most important zoologists of our time, taken

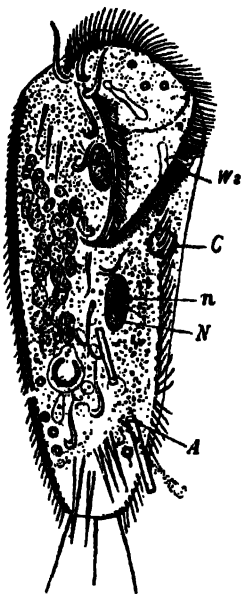
*from us alas! too soon, Edward Drinker Cope. Cope was an undisguisedly empirical investigator, and a fanatic believer in the hypothesis of descent: no one will suspect him of mysticism nor even of being a metaphysician. But he had seen enormously, perhaps more than any living man of his craft, and he, as a free American, pondered without prejudice on what he had seen. Here is a man who comes to the conclusion that all the Forces of nature are in antagonism to Life, so that a genesis of Life out of Force and Matter is a sheer impossibility, indeed a senseless thought. "It is," as he says, "more probable to assume that death is a consequence of Life, than that the living is a product of the non-living."*⁷⁹ Specially interesting also is the distinction which he draws between the ordinary chemism which only operates in the living body destructively, disincorporatingly, reductively, and the anti-chemism, as he calls it, of Life which, though it presses into its service the inorganic Forces, compels them to an activity opposed to that which is habitual to them. Here you have pure unadulterated perception, not sicklied o'er with the pale cast of thought.⁸⁰

Another consideration which has been briefly touched upon, teaches us to distinguish the Form of Life. We saw that the crystal is not a unity, but only an insulated individual, for the simple reason that only that can be called a "unity" which consists of parts put together, whereas every "part" of the crystal is in reality a Whole. Now if it is the essence of Life that it should be Form, so it is the essence of Form to be a unity, and that implies at the same time that it must consist of parts which stand in reciprocally conditioning relations to one another and to the whole. Do but open your eyes! Every living being, great and small, may serve you as example and proof—living beings only. If you so please we can put this into the formula of a logical syllogism: the essence

of form is that it should be a unified whole : a unified whole consists of parts reciprocally conditioning one another : parts reciprocally conditioning one another exist only in Life ; Life alone therefore is, in the true sense of the word, Form.

It must not be objected that a crystal shows different surfaces, edges, angles, and that these are its " parts " ; for so little do they reciprocally condition one another, that to a certain extent a perfect crystal can hardly be produced otherwise than artificially, apart from the fact that, as you have seen, the whole of this structure of form is without any significance for the Matter which is concerned, or for its properties. Equally unjustified would be the objection that in a planetary system the various gyrating bodies condition one another. It would be easier for a neophyte to fancy that there might be some justice in the objection that there are " quite simple " living beings : that these consist of a single cell, and therefore contain no distinct parts reciprocally conditioning one another, nothing that we usually designate as " organs." This is an assertion which you find even in very serious scientific works ; it was absolutely essential for our theorists of descent that they should have simple living beings for the requirements of their structure of dogmas : nothing is so blinding as the fanaticism of preconceived opinions : a ladder of stages without a gap must, after the manner of Giordano Bruno, be set up for all beings, and so the transition-step out of the lifeless into life could not fail. When the notorious *Bathybius Haeckelii*, the so-called entirely formless living matter, had by means of an addition of alcohol burst into a mere sediment in bottles filled with sea-water, the so-called unicellular beings had to pay the penalty. The very word " cell " is little more than a word : *la cellule c'est la bouteille à l'encre des naturalistes*, exclaimed a short time since a witty investigator, and very right he was :⁸¹ but,

however that may be, there are questions which we cannot discuss here : every day we learn more clearly to see how manifold and how various are the contents of one of these so-called cells, and that is all that we need consider : The course of biological science has discovered that those forms of life which used to be considered as simple, are, in truth, endlessly complicated. How people laughed at Ehrenberg ! a man worthy of all admiration, because he believed himself to have discovered the most various organs in the Infusoria, stomach, viscera, heart and kidneys,⁸² for in the meanwhile the very useful, even if overrated, conception of the cell had been taken up out of botany into zoology, and Siebold and Kölliker had shown that these microscopically small animals consist of one single cell.⁸³ But years passed, years in which the methods of investigation and optical instruments were continually being perfected, and so it became evident that the infusorium, which morphologically might certainly be considered as a single cell, does in spite of that really consist of many different and absolutely specified parts, so that Ehrenberg was in the main right, and only erred in regard to details. This unicellular being has two so-called Vacuoles, which pulsate in the same way as a heart ; as the one swells the other contracts, and the fluid which is thus set in circulation moves (at least so it has been observed in optically favourable cases) through "vascular interspaces";⁸⁴ this arrangement is not unlike the heart with its two chambers. Further, the



infusorium has a mouth, very often with a manifold very complicated surrounding like lips, composed of movable membranes and regularly arranged cilia : it has a distinct pharynx :⁸⁵ the nourishment which is absorbed travels along fixed passages through the body, and those portions which are not assimilated are excreted through an anus, etc. etc. Besides that, reproduction depends upon very highly complicated arrangements which first appear in the copulation (fusion) of two individuals in which the distinction between the male and female sexes can in certain cases be manifestly detected. The well-known Darwinian Weismann has to admit this copulation : " it is essentially the same process as that with which we are acquainted in the higher animals and in plants as fructification," the only difference is a far greater complication.⁸⁶ Quite recently a young investigator of marvellous talent, Hermann Nikolaus Maier, has succeeded in making sections lengthwise and crosswise through these minute beings, revealing in all its complication the nicer structure of the cilia and of the movable membranes, and showing the possession of tactile hairs, i.e. organs of sense.⁸⁷

But this is all by the way, and simply to show what a high grade of differentiation may exist in a form of Life microscopically small, and which as a consequence of very anthropomorphic conceptions we are accustomed to regard as, " simple."⁸⁸

Perhaps, however, some one of our schoolmen in natural history may refer you to even simpler beings. Usually the so-called *amæbæ* are set aside,—naked, slimy formations which change their outline at every moment, inasmuch as they put out and draw in *pseudopodia*, that is to say, sham feet, by which they take in nourishment and also obtain motion. But our experiences with the infusoria ought to make us very careful. The mere fact that in a small living mass of protoplasm we, Professor X and Professor Y to wit, are unable to detect under the micro-

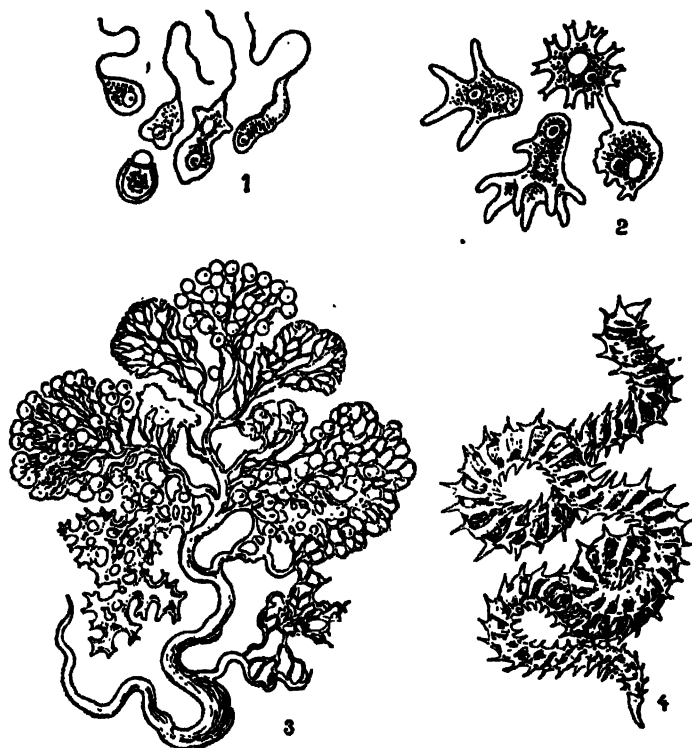
scope any division into parts, does not prove that no such parts exist. Here again I will deal with facts instead of theoretical arguments. In the first place all amœbæ possess a contractile Vacuole, and that means an organ which sets in motion a certain circulation of the fluid parts: secondly, in reproduction the processes of the various parts, so far as it has yet been possible to observe them, are highly complicated and so indicate an inner differentiation, even though it should be hidden from our sight: thirdly, the majority of those amœbæ, which are usually reckoned as animals, form complex, specifically different, and constant shells; it is in the shell that the otherwise invisible form comes into observation. Let us, however, consider those amœbæ which are so extremely primitive, as it is called, that we can neither refer them to animal nor to plant life,—the myxamœbæ or myxomycetæ (slime-fungi). Until fifty years ago these creatures found in rotten wood, decayed leaves and the like were looked upon as hardly organised intermediary forms between Matter and Life: then came de Bary, Cienkowski, and others, who conducted a minute investigation under the microscope into the mysteries of breeding: under their researches the so-called simplicity vanished. Every one of these slime-masses—the reputedly simplest unicellular entities, even those lacking a cuticle,—forms hardly to be counted as life,—were now found to contain many nuclei: it was also proved that this form, as a matter of fact, consists of the combination of many individuals, as it were a confederacy, and again under certain conditions falls apart into the same number of individuals. Every one of these individuals, however, has behind it an eventful development; for in the first instance out of a closely cuticled, characteristically designed spore or germ, there broke forth a zoospore, armed with a flagellum, a bottle-shaped diminutive being with a long, movable hair as rudder at the thinner end, and began to swim about with see-saw

motions in water of which a few drops sufficed it for long voyages : then this little zoospore by subdivision separated itself into two swarmers equally furnished with flagella, a proceeding which in most cases repeated itself over and over again, so that since in the beginning there were many zoospores, in the end there was a whole mass of these swarming cells swimming about. And then, just as the tadpole loses its tail when it crawls on land in the shape of a frog, so all these cells threw away their flagella, and began to creep on dry land as apparently formless naked lumps of protoplasm, until at last numbers of such lumps met together and became fused into one of those slimy masses, the observation of which formed our starting-point. This mass has in no way arisen out of a chance coalition : on the contrary, it has a most important mission to fill : this combination of many small unities into one new and larger unity, has to care for the maintenance of Form. When the mass ceases to move by the help of its pseudopodia and comes to a standstill, far-reaching changes take place within it ; here and there a knot swells up, it raises itself up higher and higher upon a pedicel, rounds itself off to a sporangium furnished with a stiff cuticle, in which by subdivision of the existing germs numerous spores arise. These sporangia are variously formed and coloured according to their fixed species,—sometimes they are even as it were inlaid ; but inside, besides the spores from which later those flagella-bearing swarmers are to break out, they develop a plait of little tubes as thin as hairs, called *capillitium*, which sometimes stand free, and sometimes are bound to a net which, when the spore-vessel breaks, distends itself widely out. The wall of their small tubes is provided with all manner of pretty strengthening ridges which run straight, or diagonally, or in screw form, or are placed over one another in various directions ; this complicated apparatus has to fulfil important functions

in the protection and dissemination of the spores. Observe this: the apparently utterly formless masses of slime which creep about are in no wise to be distinguished from one another, or at most only by the most exact expert who recognises them by certain peculiarities visible only to him; we should be at first inclined to say: here is a Life without any fixed form; and if there had been no such thing as the possibility of artificial culture in this case, folly would have had a free hand; but the form of the sporangia which have now been discovered, the form of the spores and especially the complicated structure of the tiny *capillitia* tubes, all absolutely constant characters, allow of the division into groups, genera, and species with the same certainty as in any other animals or plants; from which we learn that that same naked apparently formless mass of slime was in truth through and through Form, though our human eyes were not 'able to see it, nor our human methods capable of indicating it directly.⁸⁹ Moreover, I think you will hardly be of opinion that the life-history of a so-called simplest being which I have just described is after all such a very simple matter: it would be nearer the truth to say that it is so complicated as to be almost beyond our comprehension.⁹⁰

I hope that these hints as to the knowledge of facts gathered on the highway of perception will have made clear what was Plato's meaning when he says that it is not plurality, but a Whole conceived ideally as a Unity that enables us to speak of "Parts" (p. 90); and if I add, Life is Form, Form is an ideally comprehensible unity; and life must therefore consist of "parts,"—there can be no such thing as the Simple, the One,—such a thought is senseless, and all perception gives it the lie. If you take up a classical work upon modern exact investigation of cells, Edmund B. Wilson's *The Cell in Development and Inheritance* (2nd edition, 1900), which

has for its motto Pliny's words, *Natura nusquam magis est tota quam in minimis*,—you will see that not only does the cell consist of parts, but that every part of the



STAGES OF DEVELOPMENT OF PRIMITIVE ANIMALS FROM THE CLASS OF THE MYXOMYCETES.

1. Swarming zoospores. The lowest has just escaped from its envelope.
2. Naked cells like amœbæ proceeding out of the swarming spores by the drawing in of the flagellum \times about 400.
3. Movable plasm-net resulting from the fusion of numerous amœbæ cells.
4. Single spiral fibre out of the capillitium \times about 1200.

(After Haeckel, *Kunstformen der Natur*.)

cell is itself in turn made up of parts ; the more perfect the methods of investigation became the more clearly did the cell, which had originally been regarded as a

simple element, reveal itself as a whole world of parts all reciprocally conditioning one another. At the same time it was discovered that Form extends its domination even into the microscopic details, so that for example a germ can only be produced out of a germ, a leucoplast out of a leucoplast, a chromatophore out of a chromatophore, a centrosome out of a centrosome, and so forth. This fact is no longer denied by any investigator; even Weismann, the representative of dogmatic Darwinism, accepts as many specifically different "biophores" as a tissue exhibits of histologically different component parts, with the reservation that he declines to see this difference in the form, as de Vries and others do, but only recognises it in the fact that these biophores "regulate the whole significance of the importance of the development of the cell" (*Descendenztheorie*, 1902, I, 418).⁹¹

I have been compelled to lay stress upon this, because everything depends upon the right comprehension of certain fundamental thoughts; it is in such points as that under consideration that Thinking and Seeing coincide with mathematical accuracy, and it is only at such points that we can speak of a true understanding;⁹² the necessity at once arises to turn away to the right or to the left: it is a serious matter for us when such pillars of support as this begin to totter. Pure thought and pure sight are then at an end. Thinking and Seeing are as a general principle more nearly related than we are wont to imagine. In this case with the consideration of unity and parts, we are rendering quite as good service to natural history as to philosophy. I have drawn largely upon natural history, and shall again so draw: but as for our investigation of Plato we have now grasped the great fundamental antinomy of unity and plurality at its deepest root. Not by abstract reasoning, but by the clearest perception, we have learnt that as a fact unity only exists where something is made up of parts, that

therefore the idea of unity presupposes the idea of plurality. This is no half-understood position that may any day be thrown into doubt by some other philosopher ; it is a question of ascertained experience ; if any man doubts it he is not worth doing battle with. At the same time we understand that this antinomy, like all antinomies, has only really a meaning in Life and for Life. Outside Life we found space and time, numbers also without importance : we saw this in the crystal and in the planetary system : but, just as here Being is Growth, and Growth Being, so in Life unity is of necessity plurality, and plurality, like the zoospores of the myxomycete, goes to form a unity.

We will spend no more time over abstractions : such matters require to be grasped with the rapidity of lightning : let us go back to the study of nature in order to draw a further important categorical dogma out of the principle that Life is Form, which will serve for a closer definition of the Form of Life, as apart from everything which assumes fixed Forms outside of Life. For instance, we used the words "mechanical" and "organic," and have for the most part, I am afraid, so little exact knowledge of what we mean that the result is an inextricable confusion. On one side a mechanical interpretation of nature is anathematised, lately indeed by several investigators of nature, as if an unmechanical science could yet be a "science." On the other side, it is held that the very distinction between "organised" and "non-organised" bodies is a matter of mysticism, which means for the faithful among our investigators of nature much the same as a denunciation for heresy to the *sacra congregatio inquisitionis* would mean for a Franciscan monk. It is really high time that a clearance should be made in this Augean stable of delusion.

In regard to the mechanical interpretation of Nature it is to be observed that it is a question of method only,

not one of fact. For the exclusive justification of the mechanical mode of observation within the bounds of what deserves to be called science, I must refer you to the whole of the lecture on Leonardo and to my *Foundations of the Nineteenth Century*; further, I must remind you of the law laid down by Kant,—“ I must at all times reflect upon what takes place in material nature according to the principle of the mere mechanism of nature, and consequently, so far as is possible to me, seek for this, because unless this is the basis of investigation there can be no real recognition of nature.”⁹³ Still, in the application of this uniquely right principle we must guard ourselves against one fallacy, which from the very outset attaches to the scientific use of the word, and which owes its being to no less a man than Descartes, who was the first to introduce the conception “ mechanical ” into philosophy and science.⁹⁴ You know what a tough fight he had to carry on against himself and against his time in order to lay the foundations of rational natural science; men did not assign “ soul ” only to living beings,—“ souls ” by which all that they were and did could be explained without more ado,—but as you have heard, even lifeless bodies in motion were accredited more or less consciously with “ little souls,” that is to say, in so far as the motions which they achieved could be assigned to some principle existing in the body itself. I should wish to bespeak special attention to this: the unsophisticated starting-point of all men is the presumption that everything is in a higher or lesser degree gifted with Life,—a presumption which is natural enough, since it is from Life that we ourselves enter upon nature, and it is to be observed daily in children, in savages, and in animals. Such a presumption makes science impossible. Hence arose Descartes’ battle against the soul. He once for all banished soul from matter when he indicated inertia as its essence: animals ceased to have any soul

for him—any conscience—but were forced into the condition of automata: he robbed man of his soul, so far as was possible, by his sharp dualism. This achievement is and remains worthy of admiration as one of the greatest that any man ever effected. But there was one thing which in the heat of the fight was overlooked, indeed it was ignored with passionate stubbornness,—namely the distinction between Life, on the one hand, and force and matter on the other. In order to drive home the necessity of mechanical conception, Descartes is not contented with comparing organic beings with automata, but he actually boasts that “there is no difference whatever between them.” Here it was that the error which was soon after to become fatal in philosophy, and is so still in natural history, wormed its way in. We are duped by a mere word. For the artificial work which we call an automaton (i.e. a self-mover) is in truth a heteromaton: it can neither start into motion nor remain in motion without extraneous help. No machine moves, unless man drives it. At first sight a machine may seem to correspond to our definition (p. 98) of a “unified whole”: but that is a deception; for according to that definition the parts should reciprocally condition one another, whereas in a machine it is not the parts that so condition one another, but man that conditions them. I first make the parts, and when they are finished, I put them together into a whole; whereas life is in its every moment a whole, a unity which as it were throws out its rays as the amoeba stretches out its pseudopods. In a clock, for instance, I follow a distinct purpose, that of causing an indicator (the hand) to move round about a disc furnished with numbers: my object may be attained in fifty different ways: the only thing that has anything of unity in it is my purpose, my thought; the wheels, on the other hand, are what Plato calls a “plurality,” a manifoldness, which at most might be

likened to the planetary system which we have taken into consideration,—Force conjured up, but only entering into activity if I create it anew every eight days by winding,—otherwise mere steel, matter, inert matter. There is then no real analogy between a machine and a living being. Hence all the allegories and conceptions which are commonly attached to this, whether in a pious sense or in a materialistic sense, are objectless : they lack all insight into the essence of Life.

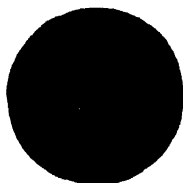
Here then the word “ organic ” renders good service if we only choose to understand what is meant by it. Still, like most other conceptions, it is not seen to advantage in modern biology. Professor Verworn, for example, whose *Allgemeine Physiologie* is rightly popular, denies roundly that there is any quality which distinguishes the “ organic ” from the “ inorganic.” He maintains (p. 125) that a compound rock has a construction more or less complicated, just as a living cell has, and he asserts that the test-glass will yield just as complicated chemically physical compounds as the living being. How are we to answer such arguments ?⁹⁵ Rock and Cell ! The Rock which differs from centimetre to centimetre, where no single element stands in any necessary relation to another : a thing which is absolutely lacking in Form ! The Rock which not even in a crystal exhibits any analogy with Form, in the true sense of the word ! And as for the test-glass and the miracles to be wrought in it, Professor Cope, whom I have quoted above, has already given the answer with his anti-chemism ; at best the learned professor can do no more than conjure up a *Bathybius Verwornii*. It was only necessary for me to adduce these matters in order that you, as laymen, should understand the delusions of many really estimable professional men in regard to the comprehension of the fundamental conceptions of life ; you might otherwise easily think that I am tilting at windmills. And yet “ organic,” as the

word was introduced by Herder and Kant in opposition to "mechanical," implies something very distinctive and very clear, even though there should be no sharp definition forthcoming, for the very reason that up to the present time the insight into the autonomy of Life's phenomena is lacking.⁹⁶ The definition should be, "Those definitely formed phenomena in which form is cause and not effect, are called 'organic.'"⁹⁷

Again you are not to believe that in this way I am dealing in that very desultory mysticism against which I so expressly warned you. On the contrary, this definition of the "organic" refers only to perception; it starts from perception, and leads back again to the same point. If I survey Life with my eyes alone, and without any attempt at philosophising, then what I see is Form; whether I look upon a mammal or an infusorium, whether I look upon a being as a Whole as it reveals itself to the naked eye, or whether I analyse every one of its elementary parts microscopically,—everywhere I see Form as the law of Life, Form constant, holding its own against Force and Matter, Form ever reproducing itself anew. That every single process of Life must be indicated mechanically, that is with me an article of faith; yet Plato teaches me to distinguish "between that which is cause, and that other thing without which cause could not be cause," (*Phædo*, 99). If, on the other hand, I were to consider this question of the "organic" not perceptively, but in accordance with my understanding,—that is to say, from the opposite bank of the river,—then the answer in regard to that other thing which lies behind the mechanical cause, would be quite different, for in that case it would be the conception of the finality. Finality and Form correspond like Thinking and Seeing. In the case of pure Seeing the conception "Finality" has no meaning, because it is utterly senseless: pure Thinking, on the other hand, can only represent Form to itself

geometrically, and that means schematically and can therefore realise the relations of a planetary system or of a crystal, but cannot realise Form as law and cause; for since Form of Life is not rigid it cannot be reduced to any geometrical scheme, but only to an artificial scheme in a figurative sense, arising out of a subjective necessity (Leonardo lecture, I, p. 112), not as an objective recognition. Thus the thought of teleology is the perception of Life-Form transferred to the domain of thought; or if you take the abstract as starting-point instead of the concrete, you may say, Form as the Law of Life is finality as it presents itself to perception.

Here we at once find ourselves again deep in Plato and Kant; for this instinctively assumed identity between two ideas,—ideas which cannot logically be compared with one another, since the one has its foothold in perception and the other in thought, is that which Kant calls transcendental; and the revelation of this relation as of a fundamental phenomenon of the human intellect, is a foremost achievement of the critique of recognition as it was founded by Plato and perfected by Kant.⁹⁸ You will, I hope, remember our first example of a transcendental operation of the intellect in our third lecture (I, p. 284); it consisted of the assertion that



$$\text{and } R^2 = x^2 + y^2$$

are the same. There the whole thing worked in the middle domain between Thinking and Seeing, where mathematics are on the one side Perception by Thinking, and on the other Thinking by Perception. We discussed

in detail how it comes to pass that we arrive at this arbitrary comparison of two conceptions which in reality have no common standard, and the arbitrary and at the same time artificial character of the proceeding was clearly shown. Here we have exactly the same process, save that the leap is from far away on the further side of the middle tract, out of the realm of the visible, to use Plato's expression, into the invisible and back again : the intermediary domain is as it were cleared at a bound, so that the process itself seems more secret, and its arbitrary character does not at first strike the eye, whilst we are not clearly conscious of the identity and of what it means. Logically it is impossible to show why organic Form and the conception of a finality express the same thing. These transcendental tendencies of our intellect lie outside of Logic, which only becomes possible through them ; for if it were not a fundamental peculiarity of our intellect to place perception and understanding into correlation to one another, no thought could as a general proposition come into existence, and we should have nothing but "empty thoughts and blind perceptions" (I, p. 221). This relation, indeed, forms the primary phenomenon of our intellect ; it is the point where the Psyche arises ; it is only the man of dogmas, not the critic, who can go back behind this primary phenomenon. It is to be deplored, however, that we hardly ever become conscious of how creatively the human intellect here acts : for the transcendental relation becomes a matter of habit, and is looked upon as a thing accepted, whereas in fact it is a method, a method of collecting experience, and it should be our business,—just as we have created the higher mathematics through the discoveries by genius of ideas and relations, and by conscious refinements of methods, thus conquering a new world,—to give to our Thinking and our Seeing, neither of which can be without the other, an incalculable impetus by the appre-

hension of new ideas, and the working out of hitherto unrecognised transcendental relations between Thinking and Seeing.

Before carrying our considerations further let me here insert a short formula: formulæ are stark crystallisations—as I know: still, we may use them for the maintenance of our experiences; as the ancients raised memorial stones, so we moderns must here and there set up words which shall serve us as landmarks and sign-posts. That is what we will now do in the interest of the clear distinction between Matter, Force and Life.

If we attack the consideration in the purely abstract sense, we speak simply of Matter, Force and Life: there is nothing to be added; the mere word is all-sufficient; for the abstract coincides with the sum of the concrete, and admits of no further specification.

If our understanding seeks for an intelligible expression for the experience of the senses, it ascribes as essence, Inertia to Matter, Mutability to Force, to Life the realisation of a teleology.

If, on the other hand, we wish to obtain an intelligible and yet as far as possible practical expression for the same notion, we speak of Mass in connection with Matter, of Motion with Force, of Form with Life. But science lays down as a law, constancy in the Mass, constancy in Motion, constancy in Form.⁹⁹

In the observation of Nature, and especially of Life, it is a matter of decisive importance to possess clear conceptions of these relations—otherwise we are bound to fall into the morass in which our modern biological investigation is held fast. For first of all the simple incontrovertible fact that Life,—intellectually considered,—is the realisation of a goal, is interchanged with the doctrine of the Middle Ages of the *causa finalis*, that is to say, of the conscious, much-planned, human “goal” as the philosophical explanation of all nature, the doctrine

of which Kant rightly says, that it suppresses the unity of nature,—though they have nothing in common: further, this conception of “finality,” through which, as in the case with the conception of inertia in matter, a fundamental fact of Life incapable of further analysis is expressed, is confounded with the conception of the purpose of the machine, although the two are as we have seen diametrically opposed; finally, most people do not suspect that when we speak of finality in the consideration of Life we are saying exactly the same thing as if we were speaking of Form, and do not reflect that in many cases the more abstract conception is preferable, inasmuch as it is a matter of experience that Thinking works more quickly and more surely with conceptions than with perceptions. Tendency towards finality can no more be eliminated from the conception of a living being than space from the conception of a thing in general. Without the continual use of the conception, why? what for? to what end? anatomy, physiology and biology would lead us no further than mathematics without numbers. Kant has incontrovertibly laid down the famous definition, “an organised product of Nature is that in which everything is end, and, on the other hand, means to the end” (Ur. § 66), in short, everything is finality and at the same time finality-creating, for by the word “means” the reciprocal self-conditioning of the parts is indicated. As a matter of fact, in spite of all the agitation against the bugbear of teleology, the search for the finality is the why and the wherefore of all animal and botanical science. It is true that in the first instance we investigate the relations of form; but we do not dignify this knowledge of form with the name of science, until we can assign a reason why,—until we can prove with what object the one part fastens on to the other,—how the Whole behaves itself as a unity, why in altered circumstances certain changes take place in the body,

etc. I can go no further into details here: you need but to open any zoological or botanical book. I cannot, for instance, understand scientifically what a fin is until I know its object, i.e. its function as an organ of motion in water, and until I can account for its correlation with the other parts, that is to say, for the nature of its subordination under the object of the ideally unified Whole; or again, the relative positions of leaves upon the shoot, complicated and reducible to mathematical formulæ, were long known, but we did not understand the significance of this fact of form until Julius Wiesner showed that these positions of the leaves, differing as they do in various plants, correspond exactly to one and the same object in Life, namely, the requisite average illumination.¹⁰⁰ Here again Plato hit the nail on the head when he said of the conception of the finality (τοῦ ἀγαθοῦ ἰδέα) that it was "that which gives truth to things observed" (*Rep.* 508 E). And thus an empirical investigator, Professor Minot, in the opening address of the American Congress of Natural Scientists, in 1902, was enabled to assert that biological knowledge is in the last instance always more a knowledge of the "why" than of the "how."¹⁰¹

What wrong roads we fall into was shown by the same investigator in the same address, when he indicated how dangerous is the modern method of speaking of all organs of which the object is not clear to us as "rudimentary organs," supposed simply to prove a former stage of development, and as now being carried as useless remainders: this is a crassly anthropomorphic "negative teleology" and nothing else. More and more, says Minot, does the impossibility of maintaining this Darwinian construction prove itself, as one after another of these so-called useless organs reveals a function indispensable to the united body, so that we may ask whether as a matter of fact there exists such a thing as a useless

organ. This testimony of a professional man rich in knowledge and prudent in judgment, deserves attention at a time when the Darwinian craze works such mischief that Professor Wiedersheim counts in man alone 107 useless rudimentary organs.¹⁰² Our dearly beloved great Herder believed, that "upon the noble, divine form (of man), the chief beauty of the earth, all the forms of animal structure seem to converge" (*Ideen*, I T, III, 6). One feels inclined to suggest as the title for a book, *Man as an Organic Lumber-room*.

In that "why" of which Professor Minot speaks, and which instinctively crops up everywhere in the survey of Life, there nevertheless lies an immense danger, a danger for unprejudiced perception. For this same "why" that every observation of Life awakens in us threatens to be transformed into a historical question, through which we are decaying into that "eternal regressus" against which the old Indian sages impressively warn us as against a bankruptcy of all recognition. The second lecture showed that it is of the very essence of all physical science to do away with the perceptible by conversion into the abstract; in the domain of Life that happens in the way in which the thought of the finality, which is in reality another way of expressing perception of form, historically receives a new interpretation, by which even form is deprived of its eternal value as law, and appears only to possess an accidental and fleeting importance. The danger with which our culture in general is threatened by natural science, when we overestimate its value as is the modern fashion, without reflecting upon the necessary limitation of its significance,—that is a matter which there is no difficulty in realising: a still greater danger threatens all culture and at the same time all science, if the phenomena of Life are considered only historically. For in Life the matter is also scientifically different: Matter and Force are

abstractions and therefore ultimately every exact consideration of them, in order to be accurate, needs an abstract expression ; Life, on the contrary, is given as concrete, for which reason not only the interest of culture, but also the interest of exact science, demands that precedence should be given to a perception that should be as pure as possible. History, however, is, as I said before, the *pendant* of abstraction : it is the only form which abstraction can assume in the face of life : as soon as it gets the upper hand it annihilates all unprejudiced perception. In our well-justified terror of the Charybdis of teleology, towards which the conception of history directly steers, we rush upon the Scylla of evolution, and forget that all history should be at bottom only a method of grasping the essence of that which is constant and outside of all history.

Hypotheses of evolution are as old as the world ; we are justified in assuming that every uncivilised people believes in spontaneous generation, that is to say, in the production of Life directly out of that which is lifeless, and believes that one form of life proceeds out of another. The totemism, the religious veneration of certain animals, which is so widely scattered over the earth, always rests upon a belief in the blood-relationship between man and beast ; it sometimes happens that the actual descent is expressly given.¹⁰³ The ancient Egyptians, who had long since abandoned this primitive stage of belief, had yet no hesitation in holding that spontaneous generation of Life took place in the damp earth penetrated by the Sun, followed by progressive development :¹⁰⁴ the old Babylonians held the same belief. So, barely two centuries before Plato, we hear a man of the relatively high culture of an Anaximander forbidding the eating of fish " because the fish is at once father and mother of the man." This philosopher brings forward a detailed scientific doctrine of evolution : according to him Life first arose in water,

and in the struggle for existence, and by adaptation to changing conditions, gradually developed itself ; in the course of time single animals climbed on to the land, where, in accordance with new circumstances of Life, they underwent deep-reaching changes and so forth.¹⁰⁵ Origen and others among the first founders of Christianity were convinced of the evolution of forms out of one another. These phantastic doctrines were so plausible and persuasive to the average mind, that they never disappeared, though they certainly assumed a more refined shape in the brains of the few important thinkers. That a Paracelsus or a Nikolaus of Cusa should regard the continuous procession of living beings which they believed themselves to perceive, as *explicatio* or *evolutio* of a unified thought of creation, is indeed a mystical explanation, but it conditions an empirical theory of evolution. This theory crops up again under modern colours in the case of men who, like Leibniz and Diderot, represent the opinion that the land animals proceeded from water animals after the seas had retired ; Herder's conception of *transformation* is more refined : the doctrines of descent of Maupertuis, Erasmus Darwin, de Maillet, Bonnet and others are pure natural science. As Kant rightly says : the acceptance of a spontaneous generation of simple beings, followed by an ever-increasing formation of more perfect organisation, is so near to us, so simply adapted to humanity, " that there can be few, even of the keen-witted investigators of natural history, who have not at times felt such a hypothesis run through their brains " (Ur. § 80, note).¹⁰⁶ Thus we hear Voltaire pouring his ridicule over the people whom he saw round him teaching that " man was originally a porpoise."¹⁰⁷ It would be naturally impossible for me here to give even the most brief sketch of the history of the theory of evolution : I only wish to call attention to the fact that it is not, as is commonly maintained, the last and highest attainment of

the human intellect, but, on the contrary, a most obvious suggestion at which mankind arrived from the beginning of time. That Life should arise out of no-life, and should evermore be conceived in progressive perfection—in other words, the continuous creation of something out of nothing, seems to us no less worthy of belief than the creation of the world out of nothing, and the command to the Sun to move faster or slower, did to our primeval ancestors.¹⁰⁸ On the other hand, the success of true science has been in the exactly opposite direction: Pasteur, that true genius among the mob of shallow investigators of nature, has shown the way. Spontaneous generation must ever more and more be put out of court. So universal and uncontested was the acceptance that even Descartes did not doubt that rats—highly organised vertebrate animals,—were generated spontaneously in dust-heaps: to-day we know that not the tiniest bacterium can come into being otherwise than from another bacterium; indeed, every corporate form that is contained in a cell arises solely from a similar body; everything that is Form comes from Form, not from Matter and Force. The origin of something out of nothing is, as accurate perception proves, just as unscientific an acceptance in the domain of Life as in the domains of Matter and Force. In the same way no doubt accurate perception, directed according to a correct abstract method, will prove that every change in the Life-form is in truth a constancy of Form, a thought which I only throw out here as a paradox, since I have no time to discuss it more closely.¹⁰⁹ It has never been doubted that changes in the general picture of Life take place just as uninterruptedly as in the Life of every living being: even Linnæus suspects that all the species of a genus are inter-related genetically:¹¹⁰ that is not the gist of the question. The question far rather turns on whether the essences of life come to us atomistically side by side, or whether they do not in-

directly or directly all stand in mutual relation,—whether there is in Life a continuous additional growth, an origin of something out of nothing (which is the fundamental doctrine of all evolution), or whether, on the contrary, Life as a whole does not form a constant magnitude inside which continuous shiftings take place, though in such a way that every additional growth in magnitude, complication, etc. inside a group, conditions a corresponding change elsewhere, and that every adjustment to altered conditions (Matter and Force) always and without exception signifies the utmost possible constancy of Form. I maintain then that in order to be able to think scientifically, we must premise,—that is, we must grasp the idea and raise it to a Law of Thinking,—that the universal Life of the world forms a unity, and indeed in such a fashion that the sum of formation (if I may so express myself) remains always unaltered. The great Cuvier is celebrated for having been able to construct a whole unknown animal from a single bone ; science must advance so far as to be able out of a few remains of plants or animals to reproduce the Fauna and Flora of a whole epoch ; that must be the aim of biology.¹¹¹

This much will have shown us how to appreciate the direction towards which Thinking and Seeing, according to the principles of Plato, Kant, and Goethe, guide us in relation to the problem of life. Now let us see whither that investigation of nature, which declines to regard the essence of life as form, will lead us. It has no inkling of any connection between the idea of finality and the perception of form ; and as to the “ why,” of which Professor Minot spoke as the essence of all biology, it believes itself to have a historical answer, since it undertakes to explain the “ arising of finality,” and even in its milder shape is at the present day poisoning all teaching and universal science—which more or less, it is true, disregards all ultimate questions, but always explains every single

form as growing out of others,—whereby a monstrous structure of hypotheses is raised, and all possibility of independent perception daily dwindles. We shall see what furtherance this consideration will create for us towards the understanding of Plato and Kant.

The madness of the thought of explaining the finality of living bodies, that is to say, of showing in what way they have succeeded in gradually organising themselves to a given end, becomes at once clear as soon as we know that the thought of a finality or object is nothing more than the conversion of living form into something comprehensible. Such a purpose is exactly the same as if a man were to say—I will set forth for you how it came to pass that matter gradually became inert, and how it happened that once upon a time Force became Motion. The very thought itself is senseless. And yet it is this that Darwinism in its different shapes undertakes and for which it is so highly praised. Darwin himself contributes not a little to this confusion, inasmuch as he, as a matter of principle, eludes every philosophical discussion of the thoughts which form the basis of all his theories. Everybody would be amazed, if Thinking had not so utterly gone out of fashion, to find no single explanation of the meaning of “species” in a book entitled *The Origin of Species*. What manner of things are these “species” about the “origin” of which I am to be instructed? How does man come to any conception of a species of animal or vegetable life? Is such a conception something simple and self-evident which we have possessed from all time? Has the word an unequivocal meaning? Has it always borne the same sense? the poorest knowledge of history teaches us that it is not so. For thousands of years men have been fighting over this conception, and the science of life has stood stock still for the want of it. It is only recently that the most richly endowed and most genial investigators

have created it. The ultimate credit for this creative achievement belongs to Plato: for it is to him that we owe the origin of those two interlacing ideas genus and species, which first rendered possible a science of the forms of life; yet its systematic application and perfecting was still very far distant. Aristotle groups together whole classes, such, for example, as birds or fishes,¹¹² and calls them a *genos*; but like most of Plato's creative thoughts, that marvellously keen thought that there must always be here two different things in reciprocal relationship, a dichotomy of the unity and the plurality, of the universal and the particular, downwards or upwards,—passed over the poorer, less perceptive mind of Aristotle without leaving a trace. Centuries of hot work, work which consisted chiefly in the amassing of facts and intensive perception, passed away before a few single extraordinary men, with John Ray at their head, in the second half of the seventeenth century, grasped the essence of the problem, and paved the way for systematic separation and co-ordination in the vegetable and animal kingdoms. Without their labours we should have mere chaos, not science. Here, however, the necessity soon became apparent of fixing as exactly as possible not only comprehensive groups upwards (*eidōs*), but at the same time final unities downwards (*idea*), even at the cost of some arbitrary proceeding.¹¹³ In this new development of our perceptive Thinking out of confusion into understanding, when it became imperative to rescue us out of the daily more threatening "Labyrinth of plurality," as Kant calls it,¹¹⁴ Linnæus earned the greatest merit that perhaps any one man ever achieved from practical knowledge of the living organisms, and that, indeed, not so much by any great profundity or creative talent, as by a rare sharpness of sight combined with a rare keenness of understanding; Linnæus is a phenomenon of practical power of judgment.¹¹⁵ Species and genus, as those terms

are used in modern science, are conceptions which did not exist until the time of Linnæus, therefore not before the second half of the eighteenth century.¹¹⁶ The enormous knowledge and the works and thoughts of Cuvier, epoch-making for all future times, confirmed those terms and gave them that legal value without which nothing could have been obtained. The unheard-of development of our Zoology and Botany has been conditioned by this creative achievement: for the chief merit of the conception of a species, as it was fixed by Linnæus and Cuvier, consists in the extraordinary keenness which it gave to our power of perception. It is, however, "unheard-of," in another sense of the word, to write a book, or rather a series of books, on the origin of species, without ever testing this conception of a species, without in any single case following it up historically: for the "historical sketch" with which Darwin prefaced his book is a mere mockery. From the very first sentence Darwin speaks of species as if they were things running about like Tom, Dick and Harry, which any child might see by merely opening its eyes. And now comes the delightful part of the whole thing: in the *Origin of Species* the word species is used sentence after sentence in the sense which it has borne since Linnæus, so that the whole book from Alpha to Omega premises this conception of species without which it could not have come into existence; while the whole aim of the work is to prove that there are no such things in nature as species according to the conception laid down by the Linnæan natural science. So that the true title for the book would have been *The Origin of Species which do not Exist*.¹¹⁷ Why, any philosophical investigator from the beginning of time,—even Newton—could have taught Darwin that empirical exact science never succeeds in making anything of the origin of natural phenomena; even honest Roger Bacon in the thirteenth century, the awakener of Teutonic science,

utters the memorable words,—*causas non.oportet investigare*. Had Darwin, the incomparable observer of empirical phenomena, the man worthy of all honour, been in ever so slight a measure a thinker, he could not have failed to see that species in general is no direct natural phenomenon, but an idea of very slow growth, the origin of which lies in the human brain, and nowhere else, since it signifies one of those hypotheses, "stage and spring-board," as Plato expresses himself (p. 21), which man sets up in order to enter into sympathy with nature, in order to see her better, and in consequence also to be able to think her better.¹¹⁸

These few remarks only serve to show what a want of reflection disfigures the fundamental thoughts of Darwin and his followers: and if you push your investigations further you will perceive that the modern evolutionists are perfectly right when they logically deduce what Darwin himself never asserted literally, when they see the essence and merit of the doctrine of evolution in the mechanical explanation of Finality, by which, however, nothing further is gained than the revelation of the inextricable confusion which lies at the bottom of the whole trend of thought.¹¹⁹ It was the selection of the fittest, and the elimination of the unfitted, that enabled nature little by little in the course of billions of years to bring living beings to the state in which we see them to-day, namely, that the parts fit one another and the whole. What may the meaning be of a living being unfitted for its end or purpose, of a formless form,—how that so-called primeval mother of all living forms was able to live even for a quarter of a second, let alone nourish itself, grow and multiply itself, if it was not from the very first perfectly organised for life—that we are not told; the brain is treated in this school as the 108th rudimentary organ of man.¹²⁰

This general consideration of the fundamental sophisms

is, however, insufficient. Take one of the best anatomical handbooks which exist, a real monument of German industry and German soundness and thoroughness, Gegenbaur's *Vergleichende Anatomie der Wirbeltiere mit Berücksichtigung der Wirbellosen** (1898-1901), that book is uncontestedly the best in its department of learning, and down to the theory on which it is based, worthy of all admiration: bad books would be of no use; we must see what the good books have attained. But with a view to a correct orientation as to the methods of exact science, I should recommend a preliminary glance at the preface of the *Mechanik* of the great Physicist Kirchhoff. Here we have to deal with the most easily investigated phenomena of nature: how does a master of this craft face his task? Kirchhoff says: "I set it down as the task of mechanics to *describe* the motions which proceed in nature, and indeed to describe them fully and in the simplest manner.' By this I mean to say, that it must suffice to tell what are the phenomena which take place, without attempting to discover their causes."¹²¹ You see what admirable self-restraint sets limits to Thinking for the advantage of Perception: you see also that the modern physicist, the man who has gone through the high school of true exactitude, almost literally reproduces the words of Roger Bacon, *causas non oportet investigare*, thus falling in with Goethe, who so often and so impressively warns us that "active enquiry after cause is very mischievous." In the same way the immortal Cuvier, one of the largest brains that has ever been seen, looked upon the aim and method of his science; he was the founder of comparative anatomy. As opposed to the phantastic apostles of descent, who surrounded him, eager to prevent science from arriving at careful distinction,—he calls himself with pride *un naturaliste*

* *The Comparative Anatomy of the Vertebrates with Regard to the Invertebrates.*

ordinaire, which he defines as an investigator for whom the only reasonable rule is the observation of that which is practically visible, and the rejection of the *hypothèses sans preuves*.¹²² The same opinions were held by that race of great biological investigators to which we owe such men as Karl Ernst von Baer, Lacaze Duthiers, Milne Edwards, Auguste Pyrame de Candolle, Louis Agassiz, Richard Owen. But to-day, thanks to the rescuing power of the Dogma of descent, we have reached so far in the knowledge of life that we have dismissed all those anxious cares. "Let us imagine the most simple organism" . . . so begins the greatest and best handbook of comparative anatomy, that of Gegenbaur, to which I have alluded above. First then the thought, later on the observation. How we men are to judge what it is that nature regards as the simplest is not communicated to us: the question is not asked. That great care is to be observed in regard to so-called "simple" beings has already been made clear: in reality most simply organised beings are at present only known, so far as one can conclude, as involutions out of highly organised beings as a consequence of parasitic methods of life. It often happens, therefore, in nature that the complex precedes the simple: it is not impossible that this may be the case throughout. In the lowest palæozoic strata, in which fossils are generally found, there is represented, as we now know, a Fauna just as rich and as highly organised as that which lies at the bottom of the ocean to-day, and one that is essentially of equal rank so far as combination is concerned. Brooks, the well-known professor of Zoology in the Johns Hopkins University of Baltimore, and a convinced Darwinian, is as an honest man bound to confess that "far from showing us the simple unspecialised ancestors of modern animals, they, i.e. the few species found in the Lower Cambrian, are most intensely modern themselves in the zoological sense, and they

belong to the same order of nature as that which prevails at the present day."¹²³ You see that for this "most simple organism" of Professor Gegenbaur, the oldest known Fauna gives us just as little to lay hold of as the most recent: it is altogether a matter of phantasy. And now, we are told with the utmost precision what must have been the life of this "most simple organism," this pure creature of phantasy! It is true that in one instance, on p. 4, Gegenbaur admits that a life-course for this primitive being or no-being, different from that imagined by him, ought not to be altogether excluded; but if that were admitted conditions must be presupposed "which are far less clear,"—and therefore they are tabu. But surely nature would never have taken upon herself to behave otherwise than as what a university professor in the year 1898 could accept as "clear," and so it goes on heroically, without fear, and we are told briefly, first how this "most simple organism," which, although it was an organism still possessed no organs, gradually acquired some; and secondly how the different beings developed themselves out of one another.¹²⁴ The one is called expressly the "history of organs," the other the "history of species." Nature, you must know, poor clumsy bungler that she is, having once, she herself knew not how, allowed by mere chance a living being, an "indifferent" primeval germ, to arise in her hand, needed long and industrious practice in order to bring life into a condition which should be capable of living! Happily there occurred a great "principle for the formation of organs," thanks to which, by degrees an organism came into being: it was not in vain that the Bachelier in the *Malade imaginaire* replied to the question why opium should cause sleep with the immortal answer, *quia est in eo virtus dormitiva*. Still, since she can only succeed casually in manufacturing a new individual, and in order not to risk losing the red thread of Growth, Nature,

poverty-stricken as an inventress, repeats the whole past in each individual; she recapitulates like a child at lessons, and that is what our investigators call *palingenesis* or "new birth," so that Molière had a coadjutor in the old Indian mythology. Yet, like children, Nature has often a poor memory: she says her lesson off by heart incorrectly; and in that way there arises the so-called *cænogenesis*, that is "adulterated race-history," against which the ingenuous observer must be on his guard.¹²⁵ And so the invention of myths goes merrily on! You cannot have too much of a good thing. What is worth our notice in this is the fact that all these phantasies are thoughts and not perceptions: Thought, as a bold Knight, builds itself a castle in the style of the Middle Ages, and Dame Perception must put up with it and make the best she can out of it: and the conception of aim or end, so solemnly thrown out of doors, of course comes back again at once, but in a Mephistophelean disguise, so that it can assert itself without disquieting the gentle consciences of our historians of life. So, thanks to "an inherent mutability, the organism adapts itself to the conditions which work upon it." What do you say to this mummerly? Do you think that you have gained by this "inherent mutability"? Does it tell you more than the simple view that the essence of life, taken comprehensibly, is finality? And here again there occurs the misfortune that mutability is set up as the essence of life, whereas its true essence is constancy to form! But that painted boggy does not come alone. A boundless mutability might serve to account for the possibility of adaptation,—it could not be its cause: "the cause of adaptation," writes Gegenbaur, "must in the first place be sought for in the advantage which the organism gains by the corresponding change." See how utterly anthropomorphic this thought is. Advantage as a motive cause, for instance in the merchant, is well known to us: but advantage as

the cause of adaptability, instead of the result of adaptability, which would at any rate have a reasonable meaning, is a thought to make one's hair stand on end, which as against nature must be looked upon as a wretched miscarriage.

That is how anti-science and phantasticism have invaded our times. And how did this happen? It was the inevitable consequence of wishing to understand nature from the process of growth instead of from its Being, which compelled men to set every question further and further back until free ingress was given to phantasy and hocus-pocus. Taken fundamentally this continual setting back is identical with Goethe's method of speculating on primitive beasts, primitive plants, primitive cattle, and so forth: but here Goethe's discretion is lacking, as well as the blessing of his power of imagination.¹²⁶ If we might not say that this craze is only the last belated straggler of romanticism and Hegelism in alliance with flat English utilitarianism, and that a hundred years will not have passed before it will be judged as men to-day judge alchemy,—the doctrine defended as plausible during centuries by the most talented scholars, a doctrine which had no inkling of the individuality of things:—if we might not hope for a race of creatively great biologists (just as Lessing unswervingly hoped for a blossoming forth of German poetry in the midst of a foreign mania): if we did not see around us in a few single investigators—at any rate in Germany—an energetic shaking off of this “English sickness,” as the Zoologist Friedrich Dreyer called it in a happy phrase,—we might abandon all hope of a future for science and culture.¹²⁷ In the last paragraph but one of his *Origin of Species*, Darwin specially recommends his theory for our acceptance in that it also promises to mankind that all corporal and mental endowments will tend to progress in the direction towards perfection.

I, on the contrary, should have thought that we might have contented ourselves with the gifts of a Plato, a Descartes, a Leonardo, a Goethe, a Kant, and that we might dispense with the promised progress, if we might only have a little leisure, a little air, a little composure, in order to make ourselves acquainted with the present, to make ourselves at home in it,—if we might assimilate, contemplate, tend, nurse up, all the whole brood of pregnant eternity slumbering within us and accumulated all round us: how far better this than that we, fooled by delusions out of a bestial past that is no past,—such as savages see rising before them like nightmares in their dark caves, but which have never had any existence save in our diseased brains,—should with outstretched greedy hands, without cease or rest, clutch at a phantastic future in which natural selection, in its blind choice, is forsooth to transfigure us into an exalted being, the like of which is beyond the imagination of the great and holy and sublime men of the present generation! What though the skulls of many of the oldest prehistoric men should be roomier than those of the average modern Europeans, with a correspondingly greater brain, and in consequence without question a higher intelligence! “There must be progress!” and scientific superstition makes it a point of honour not to be less potent than religious superstition.¹²⁸ How great is the saying which Plato puts into the mouth of Socrates: “I do not expect to gain anything by waiting.” Every single moment is fraught with the possibilities of every blessing; we have but to stretch out our hands and grasp! That was what Plato called the doctrine of Being as opposed to the doctrine of Growth. Out of that he believed that he could drink in wisdom in the sense of knowledge, and wisdom in the sense of dealing.

It is now time that we should arrive at some philosophical result from our considerations. For in all these

questions we have ultimately to deal with the antinomy of Being and Growth, of rest and motion, and Plato's standpoint is as clear and simple and therefore as instructive as possible: without constancy (Being) no recognition; without motion (Growth) no perception.¹²⁹ Manifestly there is nothing mystic about this; it is just the simple critique of the condition of recognition. Being and Growth do not represent to Plato two abstract categories waiting to be referred to or denied to this or that phenomenon. "It is only possible to speak of Being and Growth in relation to something; but that there may be Being and Growth in the absolute sense is something that we can neither maintain ourselves nor allow others to maintain" (*Theait.* 160 B, C). Of an entity in itself we do not know one tittle more than we do about a nonentity (*Sophist*, 243 C). "All perceptible things are comprehended in Growth" (*Timaios*, 28 C). Accordingly we understand Plato exactly as soon as we perceive that everything according to him arises out of the meaning and the reciprocal interpenetration of Being and Growth.¹³⁰ All recognition is twofold (p. 54 *seq.*), and we may well laugh at the philosophers who are ever at war, the one set saying, everything Is, nothing Grows, while the others say everything Grows, nothing Is (*Sophist*, 246 and 249). It is true that it is not until later that we are conscious of the antinomies, not until after a penetrating analysis, and yet they are the foundation of all recognition. That is why critical discrimination is so valuable; for if, as Heraclitus has it, "all things undergo change and nothing is constant, then all recognition is impossible; for recognition presupposes a constant object and a constant subject; if everything is for ever in a fluid state there can neither be a subject to recognise nor an object to be recognised." Heraclitus indeed says, "Thou canst not twice enter the same river"; but if nothing is constant, then the "Thou" in question is in the next moment no

longer there, and the thought "the same river" itself disappears. "If all things change and nothing is constant, it is not possible to maintain that there is any knowledge about anything." That which we call Being is in partnership with Thinking, and what we call Growth with Perception (*Sophist*, 248 A). But it is the function of Thinking (of the Ego) to charm the chaos of that which is undergoing change, into form, into rest, into being, into eternity: that is how at last recognition arises, and therefore, "Being stands in the same relation to Growth as truth does to delusion" (*Timaios*, 29 C).

Cursory as this sketch may be I think that it will suffice to enable you to grasp the course of Plato's thought, and that you will understand how he arrives at describing the doctrine of evolution which he ascribes to Homer (*Theaitetos*, 152 E), as exactly identical with sophism as a philosophical system and sensualism as a psychological system. He is, of course, far from denying growth, or change; even in the case of animals and plants he sets forth with the sure instinct of genius "that they must have experienced countless transformations" (*Laws*, 782); knowledge and science, however, can according to him depend upon constancy, and consequently in the search for knowledge we must endeavour to grasp that which is constant or, as Plato sometimes expresses himself, "ideas": it is our business to search until we find something which, as being constant, is fitted to yield the foundation for true recognition. Up to the present the history of science has brilliantly justified Plato's conception: for the determination of that which is constant, only to be grasped ideally (as we usually say, of *Laws*) in the course of phenomena, is the essence and content of our mechanics, our astronomy, our physics, our chemistry, indeed even of our scientific philology.¹⁸¹

But if it is life that we are taking into consideration there arises a special relation which, so far as I know, has

been brought forward neither by Plato nor by Kant. In the interest of indispensable perceptibility I must go back once more for a little, but must in so doing claim special attention, for it is a question of arriving at the most important result of our labours.

Let us in the first place take any inorganic object : say a crystal or a planetary system riveted in constancy—I am for the moment speaking of pure perception without any deductions of thought—in this constant being we see no trace of growth : that any changes should occur here is something which must be explained and demonstrated to us beforehand, in order that we may believe it : often the acceptation of it is nothing more than pursuing our hypothetical structures of thought into the realm of the absurd.¹³² If, however, the balance is destroyed there follows a growth perceptible to the senses, and then we have, so far as mere perception is concerned, a pure Growth taking place before our eyes without Being, because every conception of something constant in which change takes place is impossible to us : we may indeed invent something constant, for instance, “substance” ; we do it for the sake of knowledge, but we do not perceive it, it is a mere matter of thought. If the planetary system breaks up, then the forces which were till then bound up together are changed into other forms of motion, and if the crystal is disintegrated chemically, and transformed into another body, it simply ceases to exist. What perception gives us outside of life is either Being or Growth, not both together. Being here is not Growth, nor is Growth Being. Then there arises a second consideration which at last gives us a full insight into our own instinctive proceedings. Even the higher mathematical physics which reduce the conception “Matter” into motion, reintroduce it as soon as they have satisfied their consciences by this proviso ; in truth, the human intellect cannot for a single second dispense with the conception

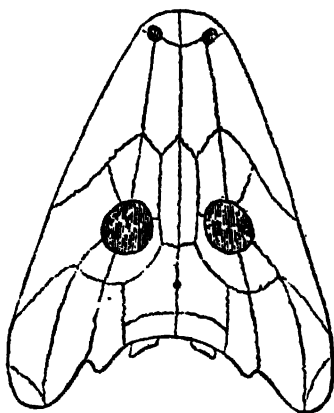
of Matter. This, I think, can be explained as follows : the fundamental antinomy, that is to say, the fact that every recognition consists of two unequal parts, gains a clear expression by this separation into Matter and Force ; under Matter we understand that which is constant, the Being of the lifeless (even if we are compelled to reduce this constancy very far back into the so-called elements, and therefore beyond all that is perceptible to the senses), —under Force we understand that which is changeable, the Growth : in this way we dissect into its two parts that fundamental antinomy of Motion and Rest, Change and Constancy, Growth and Being, and give to each part its due. That has at all times taken place instinctively, yet perfect clearness was only reached by the purely scientific separation into matter as inertia, and force as mutability.

In life, however, the relation is essentially different ; for pure perception gives us not either Being or Growth, but always and without exception both together. The Being of a living creature is Growth. We may speak of God as a Being which Is without Growth, that is to say, which exists as pure Being : yet Kant will show us in the next lecture that all our utterances about God can neither be thought nor represented : they are empty theses. Perception, outwards as well as that least ambiguous of all experiences, experience in our own selves, show us that in life Being always contains Growth. The plant and the animal are bred, developed out of germs, grow and pass away. But Growth does not only show itself in the individual, but in all phenomena of life. The generations which follow one another are not exactly alike, for it is of the essence of form to be elastic, and in this way form fights against the force of matter, and so it maintains itself. The changes in certain life-forms are no discovery of our theorists of descent ; it has been known to our scientists from all time ; Buffon speaks of the *mouvement de flux continuel*, and forestalled the

experiments with doves which lay the foundation of Darwin's theory, and indeed with the same material result of a common descent from the wild rock-pigeon ;¹³³ Linnæus has very interesting observations and considerations on the subject, and says, " that it is not indeed a truth proven," but that he holds it to be highly probable " that all the species of a genus in the beginning formed one single species."¹³⁴ Cuvier made extensive experiments on the subject of variability in the dog, and is the discoverer of the fact, that every geological epoch is distinguished by a special Fauna and Flora ; Agassiz is the discoverer of the apparently progressive development in the series of related forms, and the series of the beings that are living at the present time, " from the monad to man " (as Milne Edwards wrote in 1851), awakens, when they are all considered together, the conception of a directly visible evolution : briefly, every scientist has at all times been in agreement with Goethe, " we believe in the eternal mobility of all visible forms of life."¹³⁵ But at the same time, and in a far higher degree, not only thought, but direct perception shows us that here the process of evolution is constant, is in fact a Being. Evolution,—if we are to preserve that misleading word,—is indeed present, but only as the principle of constancy. In everything that is inorganic that which we conceive as constant is only a conception, an abstraction not to be grasped by the senses, whereas, on the contrary, life shows us Form,—Form constant till death in the life of the individual, in spite of the changes and transformations which occur in the fight against Matter and Force,—Form which in spite of individual variations remains constant from generation to generation ever rearing itself anew,—Form, which asserts itself in the phenomena of regeneration with an obstinacy that verges on the miraculous,¹³⁶—Form, which in fundamental shapes and types, as well in the main lines of the whole plan, as in the details of the

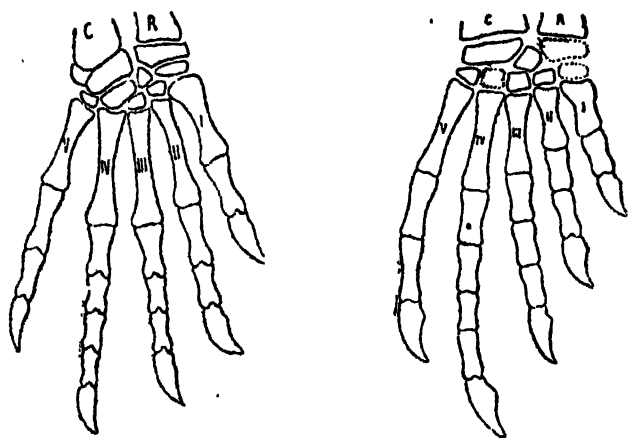
structure, binds together and joins into unities even remote beings by means of constant shapes, relations and numbers,—unities which from the oldest petrifications of the palæozoic age until modern times remain constant, fixed and immovable.¹³⁷ Being is here the primary consideration, Growth the secondary. Constancy,—not only of single species without any change from the oldest palæozoic strata until to-day, which as will easily be understood is an exceptional case,—but, as I have just shown, constancy of precisely the same structural conditions down to every detail in spite of all cosmic and telluric convulsions in the course of untold millions of years; that is the great fundamental fact, the fact of all facts, which pure conception gives us in regard to life.¹³⁸ Life is form, constant form. For example. The skull of the mammals is, in the light of a comparative anatomical observation, a simplification of the skull of fishes and amphibians: numbers and reciprocal position show that precisely the same bones,—or, as Plato would have said, the same parts of the unity,—are present, as can be proved by embryological investigation. Only, owing to the more compressed structure of the rounder capsule of the mammals, the ossifications which at their first appearance are separate become anchylosed into a smaller number of distinguishable bones; still, the homology remains, as I have said, constant; a salmon's skull is generally chosen for demonstration in detail to students in their first term, in order to lay the foundations of the study of the cranium.¹³⁹ Fishes and amphibians are found in great numbers in the palæozoic strata; take any one of the amphibians' skulls which have been preserved uninjured, for example, the very clearly rendered skull in Gaudry's *Paléontologie Philosophique*, of the *Actinodon Frossardi*, an animal so archaic that the whole order to which it belongs does not appear even in the secondary, much less in the tertiary strata. You will

find that this skull has exactly the same bones as those of the skulls of all modern vertebrates, neither more nor less, and that all the reciprocal relations are so clear that the homology between the skull bones of this animal which lived perhaps a thousand million years ago in the marshes of the carboniferous system, and the bones which at this moment enclose our human brains, is absolutely perspicuous. Here you have the two parietal bones, the two temporal and nasal bones, the two separated frontal bones, in man adhering before birth, the occipital bone, etc., everything, just as you may see it to-day in every one of the many thousand species of the vertebrate animals. Not the difference of elements, not the manifold transformations of the earth's surface or of climatic relations, not the far-reaching shifting of universal vegetable and animal life, not the active force of change from day to day, the mighty effects of which are dinned into our ears until we are almost deafened, not the



phenomena of adaptability with which life is wont to defy all obstructions,—nothing has been able to alter one tittle in this vertebrate animal's skull, to add one tiny new bone to it or even to reduce or remove any single bone. As it appears in the oldest known examples, so it remains to-day. I have taken the skull as an example, because we men rightly hold the head to be the most important feature, and so I gained an *argumentum ad hominem*; but the same holds good of the whole body, and it applies to all other types of structure as it does to the vertebrates. Perhaps for the layman the relations of one of the extremities may be more easily recognised,

and since we have opened Gaudry's book, I give you here the skeletons of two fore-feet, of which the one on the left belongs to a reptile which only occurs in the palæozoic strata, and the whole organisation of which refers it to a group of which the last representatives died out at the beginning of the mesozoic age, before the Jurassic, whilst that on the right shows the bones of the foot of a monitor lizard of to-day. In this wise has Form maintained itself in the countless thousands of millions of reptiles which have lived since the palæozoic times until now, and main



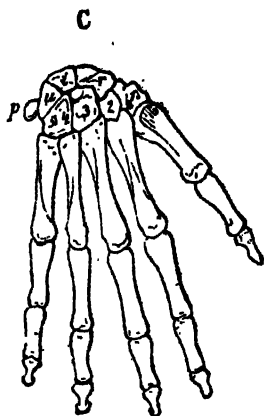
tained itself even where, as in the free extremities, external influences must reach their highest power, and where we might at first sight suppose that the numbers and position of the component parts would be subject to endless change. By this practical lesson in perception I wish to impress the fact that Life though a plastic power (for how else could it be Form?) is not continually effecting as many changes as possible, is not inclined towards Motion and Growth, but, on the contrary, is constant with indescribable obstinacy as the one and only conservative principle in all nature, as the greatest imaginable repose, as the incarnation of the conception

of Being : and in proof of this I add out of Gegenbaur's anatomy the skeleton of the right hand of man for comparison with the reptile's feet. I need not dwell upon the difference in the functions in the hand of a man and the foot of a reptile : but it is striking with what a minimum of change Life has maintained the same Form.

The more closely we look at Life the less are we able to follow Plato when he maintains that only Thinking has any fellowship with Being, Perception, on the other hand, with Growth. There is a gap here, indeed more, an error, and our labours will not have been in vain if we have succeeded in feeling this, not because it has been our business to get the better of Plato, but because it is here that we find the transition to the deepest critical thoughts of Kant.

We see it with our eyes ; and had I the time I could show it even more convincingly, more overpoweringly : in Life Form is constant ; it is, therefore, not abstract Thinking, but rather a perception of the senses which teaches us the lesson of Being as opposed to Growth, teaches it, that is to say, when we direct our perception upon Life, and purify it of all the phantoms of thought. It is here, here in the perception of the Form of Life, that there arises the conception of a Being—(which would otherwise be senseless)—and if we try to grasp comprehensibly this thing which we have perceived, we discover that it can only be conceived as teleology, something serving an end. The conception of that which serves an end is for us men the method of comprehensible analysis of the visible Form.

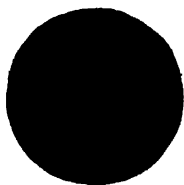
No one is further than I am from sharing the standpoint of the great Agassiz when, in his book upon *Species out of*



the contemplation of the forms of life, he concludes that Logic, abstract conceptions, intelligence in the human sense of the word however exalted, and in the last instance God, are here at work : no man who has gone through the critical school of Plato and Kant can fall into such anthropomorphism as that : our business is the critique of recognition ; we must not let ourselves be fooled by our own intellect, and so it is of far-reaching importance to define accurately why the contemplation of the Form of Life always of necessity leads to the conception of a process of thinking and what that signifies.¹⁴⁰ That is what we have done, and so we have reached a point where the two halves of our intellect, understanding and sensibility, not only meet together, but enter into such a close organic relationship to one another that each forcibly premises and conditions the other, because it is only so that it can obtain expression and understand itself, because each, so to speak, only sees itself mirrored in the eye of the other. In the contemplation of the Form of Life, and only here, I can think what I see, and see my thoughts with my eyes. For Form, that which Plato defines as the " unified Whole composed of parts," however much it may be seen, however surprising it may be (as every newly discovered animal shows), first arises as " Form " at the moment when it is thought, that is to say, comprehensibly gripped firmly as a unified system of parts each serving a purpose and brought into fixed relations to other Forms ; and teleology, although a pure thought, is so entirely woven out of perception, that it is a matter of difficulty, nay, of impossibility, to fasten this conception into words. Here understanding and sensibility join hands, so exactly does the one condition the other.

Evidently this point is even more critical than that from which Plato and Kant started, and which furnished the occasion for this excursus. There we were dealing

with the "antagonism of reason," as Kant called it, that is to say, with two manifestly and directly contradictory assertions, both of which might be false and both of which might be correct: here, on the contrary, we have to do with two entirely incompatible ideas which at first sight it seems impossible to bring into relation with one another, which yet must be recognised as identical because they are the recognition of one and the same fact, at one time in the element of sensibility, at the other time in the element of understanding. In both cases we are dealing with the Transcendental, that is, as we know (I, p. 284), with those relations which constitute the primary phenomenon of our intellect: the one is a transcendental antagonism, the other a transcendental synthesis. In the case of antinomy I apply two opposite predicates to the same subject; for instance, the divisibility of matter is limited,—the divisibility is unlimited; or the world has a beginning,—the world has no beginning: in the case of transcendental synthesis I say of two different subjects that they are identical, for instance:



is identical with $R^2 = x^2 + y^2$,

or the Form of Life is identical with the conception of finality, or, as Kant will teach you, Ideality is identical with Reality. Where there is antinomy there exists a confusion which arises out of our unconscious interchange of different sorts of recognition, and this confusion calls attention to transcendental relations, but does not completely reveal them. Here, on the contrary, in the contrast between Life-Form and the thought of finality, we discover

that which is really transcendental. The antinomy, the transcendental antagonism, is a logical conflict of thought at which we have arrived, thanks to our uncritical thoughtlessness: the transcendental synthesis as the origin of all recognition is a phenomenon the existence of which, without the teaching of Plato and Kant, never enters our consciousness. The solution of the antinomous antagonism is the business of that logical reflection which is conscious of the transcendental difference between our two methods of recognition (understanding and sensibility): the explanation of the transcendental identity of heterogeneous ideas can, on the other hand, be afforded by no logic, for it lies on the hither side of Thinking and Seeing. The difficulty arises in our desire to measure that which is unmeasurable: the fact which lies before us is incommensurable for our understanding. We do not comprehend it, but we live it; and perhaps I should be justified in saying that we do not understand it because we live it, because this instinctive unconscious construction of logically inexplicable equations between perceptions and conceptions constitutes the essence of our human intellect.

All the details of this excursus have pointed to the one object of making perceptibly intelligible what is the antinomous or negative Transcendental, and what is in contradistinction thereto, the positive Transcendental, and how far these two contrasted phenomena arise out of the same standpoint: not until you know that have you begun to follow the thoughts of Plato and Kant. The antinomy of Reason serves as a stimulus, as a spur: but recognition first steps in when we have grasped the fact that the intellectual life of man consists in one single vast network of transcendently woven equations of ideas of perception and ideas of understanding and that means, in the language of our third lecture, of symbols and schemes.

In order to shape this yet more firmly we must give one final glance at Plato's conception.

How fares it with that error in Plato's critique which appeared as the result of our investigation of life? How did it arise? Plato did not push his analysis far enough. Many judges on this very account set him above Kant: he appears to them simpler and greater. All thoughts are tempters: even the thought of simplicity can seduce us: the too little is quite as much exaggeration as the too much. Plato drew a very sharp line between the two branches of our recognition, understanding and sensibility (pp. 49, 66); on the other hand, he did not sufficiently recognise how closely they belong to one another, how exactly they reciprocally condition one another. Like Linnaeus, he saw the chief task of his life in the sharp distinction between the ideas recognised by him in their individuality, and so he was inclined to look upon the separation between understanding and sensibility as absolute. The consequence of this was a fatal interchange and intermingling of the positive Transcendental with the negative Transcendental or antinomous, which has given rise to no small amount of confusion and bias. For while Plato (cf. p. 75) prefers the Ego to Nature, Unity to Plurality, Thinking to Perception, he, on the one hand, tears up those thousands and thousands of threads which bind together the hither and thither, impoverishing the intellect as we sometimes are distressed to notice even in him:—while, on the other hand, he ventures upon a very dangerous ground where men less prudent than himself, by gradually rejecting all perception with scorn, were destined to lay the foundation of trouble of which we do not yet know the full measure. That is the one-sidedness, the bias, of which I spoke in an earlier part of this lecture. And so Plato imagines that it is only in Thinking that he finds a "relationship with Being," overlooking the fact that though it is Thinking that gives us the great constant ideas, it is at the same time the anarchist, the disorganiser, the agitator. The

modern transformation of organic science into a historical house of cards, is nothing more than thought-work. Relying upon pure perception as a foundation I can undertake to take the whole material which has been gathered together as proof for the monstrous dogma of the descent of all living beings from one single primary germ, and to convert it into another, more beautiful, more harmonious structure, more in keeping with that Nature which is above and beyond all thought.¹⁴¹ It is not understanding but perception that awakens the idea of Being, of Constancy; needless to repeat it. Pray remember, at the same time, Goethe's doctrine of metamorphosis, his doctrine of colour: were not these ideas born of the most intensive perception? and do they not point to Unity, Constancy, Being? to that "Being" as Plato understands it? The recollection of this will guide us in the right direction. For you will remember from our first lecture that all these constructive ideas of Goethe's arose out of the necessities of reason, and through the activity of reason, and were not the direct creation of Nature, or as Schiller expressed it, were "ideas and not experience" (I, p. 71). It was then a question of perception, not indeed of perception alone, but of perception *plus* understanding. It is the same with the idea of "Form" in which a Whole, in order to be seen, must be conceived as made up of parts with a certain purpose; only in this instance the relations are clearer and purer, so that we see more, and at the same time think more, than was the case with Goethe's ideas.

We have now reached a position in which we can understand Kant when he says, "without transcendental combinations no experience would be possible." Perception, considered as the organ of sensibility, gives us in the first place plurality and motion, not unity and constancy, —there Plato is unconditionally right: but the same may be said of Thinking; it breaks up, divides, separates,

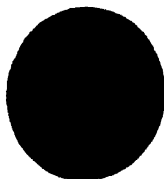
multiplies, sets in motion; Plato himself introduces dialectics as a system of division and sub-division. To grasp and hold tight, to rivet, to fasten into Being, is the business neither of Thinking by itself, not of Seeing by itself, but occurs rather by the meeting, the combination, and the interweaving of the two together. Transcendental combination is at work everywhere: through it perceptions and conceptions "come to a stand,"—what is expressed by the word "under-standing."¹⁴² The conception and the thought of Being, Unity, Constancy, and the whole host of ideas out of which our recognition and our knowledge, and, by degrees, our science are built up, all have their roots in transcendental activity. Our intellect is really a web: examine it closely and you will find warp and woof everywhere. But you will find something more, namely, that in different places there is a difference in the closeness of the web. It is closest where, as in Form and in suitability to its end or aim, thought and perception are impossible to separate from one another, because each remains unspeakable without the other. In the propositions of analytical geometry, on the contrary, the combination is very loose: in a certain sense here all is artificial: an equation of that nature expresses no more than a fraction, it is a mere outline: fifty other such equations are equally justified and equally arbitrary: here it is only scheme and symbol of purely formal Nature, both empty, that come to an agreement,—not understanding and sensibility, still less Ego and World. Between these two sorts of transcendental combination,—that which is quite close and that which is quite loose, we have the possibility, and indeed probably the fact, of an endless sliding scale. A more minute analysis is outside of the scope of our purpose to-day, yet the main law seems to be that the further the distance from which the two threads come, that is, the more purely and exclusively they belong to

the element, whether of sensibility or of understanding, the closer will be the web, and the more difficult it will be—even to the degree of impossibility—to separate warp and woof from one another. The danger for the critique of recognition, and so for science, philosophy, and culture, is the circumstance that we men are apt only to recognise the web as such where it is very loosely woven, but not where the threads are most tightly entwined; and yet with the recognition that "Life is fitted to an end, Life is Form, Form and Fitness to an end are identical," we are uttering something which is not only immeasurably richer in contents, and therefore more important as a vehicle of truth, but also simpler, than with the proposition :

The circle is



The circle is $R^2 = x^2 + y^2$



and $R^2 = x^2 + y^2$ are identical."

It is just those thoughts which are simple that man finds it most difficult to think.

To think simple thoughts was the main endeavour of the great Plato; it was also the reason why he was almost universally misunderstood. My hope has been with the help of Plato and with the foundation of his more simple manner of thinking to pave the way for a deeper and deeper insight into the far more subtle and refined architectural structure of Kant's philosophy.

We have now, I think, gained as much as we could hope for out of this lecture, and to-day, as on former occasions, it goes against the grain with me to sum up : in the middle of a lecture I like introducing formulæ, because, if properly chosen, they furnish tools for clearing a way through the jungle : but my aim is directed upon the living personality, and that can only be made manifest by a thousand stray features : in order to portray it, one must do so without saying more than is absolutely necessary. To close the present lecture and to prepare for the next and last, let me refer for a moment to my first remarks.

I said that the threads woven in the earlier lectures would to-day run together. You have seen now in what measure this has been the case. At every step I have referred either expressly or by implication to our chapters on Goethe, Leonardo, and Descartes, and without the Bruno lecture my task would have been impossible. I should like in a few words specially to recapitulate the most important of these relations.

Let us take first the general question.

In the two first lectures we saw men who considered the world specially from an artistic and concrete point of view ; in the third and fourth we dealt with men who looked upon it mainly from the philosophical and abstract point of view. In Goethe it was the subjectively inventive, in Leonardo the objectively imitative character which had the greatest weight : in Descartes we found a rich world of perception and symbolism striving to translate itself into precise formulæ and systems of thought ; in Bruno's intellect we saw the dominant spirit of that proud autocrat, abstract Reason, which some of us consider as a gift of God, others as a deception of the Devil. In Plato we find both directions, the concrete and the abstract, united, and that moreover with direct reference to all these variants. Like Goethe, Plato strives for the

arbitrary fashioning of the visible by the creation of ideas,—like Leonardo he extols the domination of natural phenomena by exact mathematical treatment, and therefore defines more precisely than Goethe the difference between Being and Growth, Rest and Motion,—like Descartes he loves to wander with his sharp power of analysis in the buffer-land between understanding and sensibility, and, like Bruno, he is inclined to undervalue perception as against Reason, and the jousts of dialectics are dear to him.

Let us look a little more closely into the connection with Goethe. According to the scheme of our last lecture—"Thinking inwards, Seeing outwards"—Plato unquestionably belongs to the same group as Goethe. Here we have the very quality which above all others is predestined for the formation of ideas (I, p. 391), and now at last we can understand the reason of this: it is because every formation of ideas rests upon a transcendental event, and weaves its web the more closely in proportion as the two component parts are the more pure; but the only warrant for their purity lies in the quality of the intellect in which Thinking is turned towards Thinking and Seeing to Seeing—nothing else. We only need to see an Aristotle or a Descartes at work, in order to become aware of the difference. But at the same time this quality explains a specially favourable conjuncture for the critique of human recognition; for such a personality clearly feels in itself the cleft between the two halves of our intellect. If this personality is above all things a thinker, as in the case of Plato, then it is intelligible that the analysis of intellect should become the work of its life: that allegory of the cave, that is of the man who feels himself to be midway between two worlds, might serve as the best imaginable allegory for Plato's own personality. If, on the other hand, in a person of this intellectual quality Seeing takes precedence, that is

to say, the direction upon what earlier in the lecture we made acquaintance with as *a posteriori*, the direction forwards into the future, as in Goethe, then we are brought into contact with what deserves to be called a topsy-turvy critique. A so incomparably lucid, but at the same time abstract, perception of Forms—(pure thought as we have seen, p. 65, lends us ten thousand eyes)—dissects irregular nature with its many chaotic colours into a number of parts exactly corresponding to and conditioning one another, but then sets them up again artificially like a temple built by the gods for their own eternal home. We must be quite clear upon the point that Goethe's "world of the eye" is a world of culture, that is to say, a world created and shaped by men for their highest needs. It is no question of passive, but of active, perception. Goethe is one of the greatest thinkers that ever lived, only his Thinking is quite concrete, drawn altogether from visibility, from the *topos horatou*, and transformed into shape; "my thinking is perception," he says himself.¹⁴³ Plato, like the Hellenic sculptor, consciously creates types, for it is only by monumentalising that the simple form becomes visible to him, otherwise it could only fade away into vapour before his eyes: Goethe, on the contrary, in every single thing sees a Whole, a Law;—and that means a Thought; it is true that he also needs types,—that must be the case with every man who forms ideas,—yet he seeks for them outside in Nature, and says of his *Urpfanze* or typical plant, "It is impossible that such a thing should not have been" (Palermo, 17.4.57). Plato then thinks his perceptions, whereas Goethe sees his thoughts with his eyes in so lively a fashion, that it needed the inconsiderate energy of Schiller to shake him up to the consciousness that what he looked upon as experiences were in fact ideas. All this may be summed up into the saying that in Plato Forms become Thoughts, in Goethe Thoughts become

Forms. But more important than the possession of any such formula is the insight into that transcendental combination, thanks to which Plato's thoughts are not abstract, but are all rooted in perception, whilst what Goethe sees is not a poverty-stricken single empirical instance, but the law, the idea, or the Form of thought. This accounts for that misunderstanding which was common to both, a misunderstanding only possible in such overwhelmingly gifted men: whereas Goethe believed that he could see metamorphosis with his eyes,—that he could "experience" it,—Plato, at any rate on many occasions, thought that he could grasp ideas with his hands (with the hands of reason), and so, by comparison with them, the world as visible to the eyes paled into a No Thing.

There is much that binds Plato with Leonardo's way of seeing. The first thing that strikes our eyes is the high value set upon mathematics which, as Plato grew older, seems to have risen more and more, so that at last he held that without knowledge of mathematics a being would be "unable to be a God, a demigod, or a hero for mankind" (*Laws*, 818). Leonardo, as you may remember, held that the power of knowledge lay locked up in mathematics (I, p. 124). According to Plato mathematics "lead to truth," and "purify all that mechanism of the soul through which truth is seen"—certainly that is so if it be premised that the Science should not be used as a mere trivial method of measurement and calculating, so that we should learn to understand "the value of calculation for reason itself."¹⁴⁴ Plato, who, so far as we know, never was distinguished as a practical calculator, has given us such profound reflections that we are at last beginning by degrees to grasp what marvellous power of creative intuition lay in these thoughts. For Plato speaks of a mathematical science in which the single quantities should not be capable of being added up together, and should be, moreover, even by itself, not

divisible, which Aristotle declared to be the *non plus ultra* of senselessness; Plato, however, here not only clearly foreshadowed the possibility of Algebra, in which every number (indicated by a letter) remains an inviolable individual throughout the calculation,—but he seems to have aimed further at that form of mathematics which Leibniz required, and which is now at last beginning to arise,—mathematics not confined to the relations of quantities, but embracing all logic, that is to say, everything that is capable of being thought or observed in any codified order or sequence.¹⁴⁵ This is not the place for a closer consideration of this obscure subject; I can only refer you to Natorp's work, p. 419. It has only been my business to show the high value set upon mathematics by this thinker and his deep conception of its importance. The relationship with Leonardo, on the one hand, and Kant, on the other, is palpable.

I see a further important symptom of the relationship with Leonardo in the wonderful and inexplicable instinct,—not always, but often, revealing itself,—for the significance of natural phenomena. It is, for example, striking that Plato recognised the brain as the organ of thought (*Timaios*, 73 *et seq.*), whereas Aristotle took up again the popular fallacy, and raised it to the dignity of the “scientific” dogma, teaching that the heart is the seat of the feelings of the senses and of intelligence. Of course Plato was not the first to recognise the truth,¹⁴⁶ and it is improbable that he should have arrived at his view by direct observation; still, it remains in the highest degree remarkable, as an illustration of his peculiar gifts, that Plato, the idealist, instinctively chose the truth, whereas Aristotle, the dissector and empiricist, took up the vulgar fallacies of the superficial crowd. One single fact such as this seems to tear a veil from before our eyes, and teaches us what the eye of genius can achieve even in the interests of empiricism. Like Leonardo and Plato so also

was Kant ahead of his times, to such an extent that to-day the eminent zoologist Gustav Wolff is compelled to exclaim: "Kant saw far more deeply into the facts of Biology than the Biology which is even now dominant."¹⁴⁷ Time will show.

We shall go still deeper if from our present point of view we turn back to the end of the Leonardo lecture, where we saw the great man distinguishing between a Nature as mechanism, and a Nature as Idea, between compulsion and freedom; for we now understand that he too, though he may not have been critically conscious of it, is dealing with the recognition of a transcendental relation. In Leonardo's whole personality that harmony of entirely dissimilar (heterogeneous) ideas, which is quite inexplicable without critique, and which we studied above in the case of form and finality, is expressed in a living and startlingly convincing fashion. The mathematician, the mechanician, the inexorably strict imitator of Nature who tells his pupils that they must study and copy every spot of dirt on a wall, is at the same time the creator of the Monna Lisa, of the Christ! At first it is impossible to conceive how all this could co-exist; we talk of contradictions and the like; but we do not understand the personality until we see that the complex of qualities which made Leonardo into a pedantic measurer, an inventor of machines, an uncompromisingly strict master, arises from precisely the same fundamental ideas, the clear comprehension of which fitted him to give imperishable expression to feelings for which language is inadequate. These are no contradictions, and we must all feel that the expression "manysidedness" does not suffice for so marvellous a phenomenon. No! it is the web that is wrought of warp and woof; it is when the elements of the two worlds, however different they may be in their essence, meet together in the centre of consciousness, that life arises. Everywhere, in every man, if only we

chose to observe closely, we should be struck by this transcendental phenomenon, and everywhere in the first instance it would appear to us as an outrage, like the algebraic equation for the circle, like the teleological thought for the form that is seen, like the many-wheeled machine on the same sheet of paper with Leonardo's first sketch for the head of the Christ; and yet everywhere deeper reflection would show us that it is precisely in this identity of that which is different that the essence of the personality in question is rooted. Seldom, however, does this relation obtain such a monumental expression as in Leonardo, and that is why I commend this great personality as a subject for special study. I would urgently call attention to the remark in the second lecture that Goethe could not be so perfect an idealist as Leonardo, because he was not so consistent a mechanician.

A matter of fundamental importance in considering the relations between Descartes' manner of seeing and that of Plato is naturally the sharp distinction between expansion and thought as Descartes calls it, or the visible and the thinkable, as Plato expresses himself. That is the whole story. And now that I am hurrying to a close, believing that throughout this lecture you will almost without interruption have felt the support of that upon Descartes, I will confine myself here to one single consideration. It is in the very keen distinction between understanding and sensibility that the common tendency towards schematising reveals itself. We have pointed to it in detail in Descartes, and made use of it as a guiding clue towards contriving schemes of our own. Plato has a special love for such geometrical schemes as those of which I have sketched several in the Descartes lecture. For instance, he delights in taking a line and dividing it into parts of equal length: the one is the Thinkable, the other the Visible: each of these parts he divides again into two pieces. This subdivision is always

recurring, and would be clear enough if Plato in his living manner had not viewed the thing each time from a somewhat different standpoint, and had not despised taking pedantic pains about his terminology: in consequence of this it sometimes happens that the same words are used for different meanings, or different words to express the same meaning. But the great general sense is clear, and that is as much as we need here. The subject is a dry one, but its schemes are so instructive that I must devote a brief attention to it.

Imagine, then, a perpendicular line: divide it into two equal lengths: the lower of the two is belief (*πίστις*); the upper is knowledge (*ἐπιστήμη*). Now divide these half lines once more and you will have four pieces. But here we reach more difficult ground, because Plato is too truthful a man to be contented with a dead scholastic scheme like those with which Bruno fills his Latin writings. The second division is more problematical to him than the first; for it is questionable at what point division is to take place, whether in the middle of the line, or higher up, or lower down: the boundary is a matter of doubt. Besides that, in each half-line,—in knowledge and in belief,—he only sees clearly one of the parts, while the other remains indefinite to his comprehension. Therefore we may say that we have before us the whole of human recognition as a perpendicular line, and see plainly that this line consists of two different separable parts; inside each of these half-lines a second division suggests itself to us, though we cannot at the first blush distinctly give the boundaries and significances of these subdivisions. Let us look into the matter more closely. In the case of each of these half-lines,—knowledge and belief,—it is the lower half which at first is the more stably formed. The lower half of belief, is the pure perception of the senses (*αἰσθησις ἄλογος*), the lower half of knowledge, is that form of Thinking which,

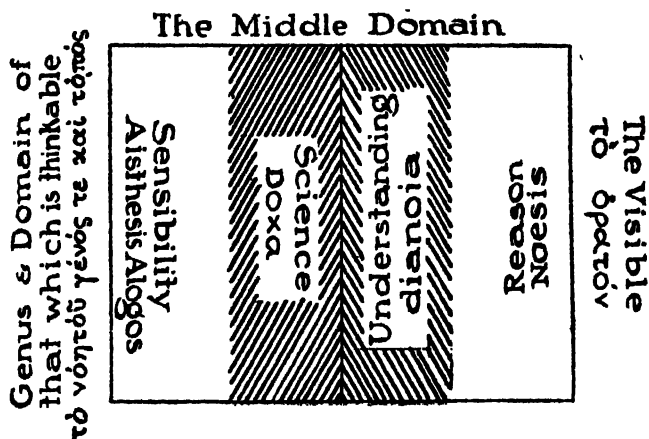
- although it leans toward sensibility, yet remains pure thought, comprising therefore all that holds the conceptions of the understanding,—causality, quantity, species, as well as logic and mathematics; (Plato calls it *διάνοια*, which literally means “thinking through,” therefore Thinking awakened and stimulated by the perception of the senses). That is the primary gift, the common possession of all mankind. As a secondary consideration there arises the upper half of these half-lines whose expansion differs individually: here all depends upon the power of perception, upon the power of Thinking, and of their relation to one another. For out of the reciprocal penetration of pure understanding and perception by the senses there are formed, on necessary and uncritical principles, acceptations or hypotheses, i.e. assumptions (about which the generality of mankind remains hazy), and from these hypotheses the mightier intellects are able to reach downwards into the upper half of the lower line, as well as upwards into the upper half of the upper line.¹⁴⁸ Indeed outside of simple belief there is a higher and a formative belief, what we now call empirical science, and by the side of simple, merely logical Thinking there is a higher Thinking creating ideas,—which gives birth to culture. If our view of nature as perceived is correct, then in our human simplicity we place these hypotheses which spring out of understanding and sensibility, as primary beginnings (*ἀρχάς*), and descend step by step down into that domain which lies between pure understanding and pure sensibility,—into the domain of empirical science (*δόξα*), as Plato calls it, and it is this domain which constitutes the upper half of the lower half-line. But if we take our stand upon Sensibility Science and Thinking, as upon first steps, and use those hypotheses as spring-boards (*ἐπιβάσεις*) then we reach upwards to that reason (*νόησις*) which creates ideas.

Here I draw the line as Plato himself describes it. But I would call attention once more to the fact that we have not to imagine a progression from below to above, —an evolution,—but that the first and third stages are given first and that out of these two the second arises ;—finally, out of all three as its foundation, springs the uppermost stage.

		<i>Doxa</i> or Delusion corresponds in respect of relative position and function to <i>Noesis</i> , Reason. We may well, looking from a higher standpoint, call its knowledge a
Delusion κν	Reason νόησις	delusion, for it is the essence of empiricism to be an intermediate form ; and with this Plato gives utterance to exactly the same thing that we asserted in the last lecture :
	Pure Thinking διάνοια	Science is neither pure seeing nor pure reason. Its office, however, is of no less importance on that account. For all those things which float before us as phenomenon, <i>eikasía</i> , are situated in the centre, " they all wander about " in the middle domain between Entity and Nonentity, " tossed about as in a storm " and only <i>Doxa</i> , this science which has its origin in the primary acceptations of reason and is empirically obedient to thought is capable of seizing the phenomena, fixing them fast, and capturing them for the human intellect. ,
	Delusion δόξα	
	Pure Perception of the Senses αἰσθησις	

It is clear how exactly this conception of science corresponds to that of Descartes and Kant : and if, on the one hand, we are over and over again reminded of *Doxa* as an intermediary, but, on the other hand, find many passages where the difference between *Dianoia* and *Doxa* is so laxly drawn that even *Dianoia* itself,—at any rate in a lower division—becomes uncertain and is equally conceived as an intermediate form,¹⁴⁹—we shall, I think,

- receive the impression that Plato came very near to the conception of a middle domain acting as intermediary between the two halves of our recognition, and that he would have offered no objection to a schematic picture such as we endeavoured to sketch in the Descartes lecture (I, pp. 239, 281). I think, at any rate, that the diagram drawn below corresponds to Plato's views.



Here we must not use the same words as we did above, for the analysis is not so refined; it tries to embrace more and to distinguish less: and moreover the boundaries are not so strictly defined. Besides which there is nothing in the diagram to show that only sensibility and understanding are there in the first instance, whereas Science and Reason are afterthoughts. Still I believe that that sort of comparative survey has its use, and makes us feel the organic inter-relationship between Plato, Descartes, and Kant.¹⁵⁰

There might be much to be said upon the subject of the points of relation between Plato and Bruno, but their complicated nature would require a very thorough analysis. How it comes about that the Neo-Platonists

and the Monists rely upon the authority of Plato, and how far they are, and how far they are not, justified in so doing, would furnish matter enough for a critical work which, so far as I know, has not yet been written : for a study of Kant it would be unimportant. We will, therefore, confine ourselves to that clear distinction between dogmatic and critical philosophy which was laid down in the last lecture. And there we have, as I think, the great central fact,—the one which the most impresses itself upon the imagination,—that a man like Bruno, no matter what standpoint he takes up in this or in that book, whether he looks at the thing from near or from afar, always proceeds from a fixed and indisputable unity, as a result of which he also invariably arrives at a unity ; whereas Plato and Kant, on the contrary, see everything as resulting from relations, that means out of variety, so that the least which can be accepted is a duality. If we were to go down to the foundation of the thing we should indeed discover that this duality—"the two stems of human recognition," as Kant calls them,—is only as it were a symbol for plurality, and is, first and foremost, a denial of the possibility of unity, though not a dogmatic pronouncement as to any fixed number ; but these subtleties are really a matter of no consequence ; and the only decisive point is and must be the question : is Recognition, is the World, is the Ego a unity ? Can I and may I speak of them as something simple ? Or do Recognition, the World, and the Ego arise out of relations, so that it is impossible for me ever to grasp these ideas in order to turn them round and round at my ease and speak of them judicially and dogmatically, because they are as it were optical points which I only see arise and disappear, without ever being able to get nearer to them, since they move with me and as I move ? "In every human individual thou seest the universe," says Bruno.¹⁶¹ This pronouncement has no thinkable meaning for Plato

and Kant, unless it be spoken figuratively: for they in the first place recognise no simple conception which they could call an individual, and against which they could set a second simple conception, the universe: rather are universe and Ego two "ideas," and that means, as we know, forms of thought which arise in that *nodus et vinculum mundi* (I, p. 436) out of which the amœba of consciousness stretches its feelers like rays. Universe and Ego can as a general proposition only be placed in relation to one another transcendently, not materially: the one belongs to the hither side, the other to the opposite side. When Bruno then goes on with the assurance that universe and Ego are one and the same, Plato and Kant answer—this assertion is senseless, since it is of the essence of both these ideas to be different, and therefore it is impossible to say more than that these two ideas, the one belonging to the invisible, the other to the visible domain of Plato, have reference to the same phenomenon, just as fitness and form belong to the conception of Life, and so exactly correspond, without however being either logically or materially equals. This "identity"—transcendentally discovered—would be something quite different from the material conception of Bruno *ogni cosa è in ogni cosa* ("every thing is in every thing"), and would only have that critical significance which was brought forward at the end of our Descartes lecture (I, pp. 305-6). If I say, "There is only one Thing, one Being, one Form; no phenomenon differs from another; there are no species, no numbers, no motion,"¹⁵² I simply annihilate the world, for the world consists of nothing but relations. And here we have the impossible error of all monistic philosophy, the belief that in the number One there lies a special significance, a special magic; whereas in the *Parmenides* (154 A) Plato shows with delightful irony that not even from the arithmetical point of view, as the reputed beginning and origin of numbers,

does any greater significance attach to the number One than to any other number whatever. All these are cabalistic puerilities. On the other hand, we have now learnt that unity as a special idea first arises in Life and then is extended from Life, but only metaphorically, to those things which, inasmuch as they take part (*methexis*) in form or fitness, remind us of true unity. It is of the essence of unity that it presupposes plurality,—component parts: the idea unity denotes those things which are composed of parts: (pp. 90, 97 *seq.*) Unity therefore means also plurality. But it bears that meaning not only in itself, but also outside of itself. Not only does Life arise out of Life, so that as true unity it possesses as its monopoly the power to produce plurality, but Life also only arises with Life. A single living Being is an impossibility, and for that reason moreover the conception of the whole universe as a living formation is a monstrous, thoroughly unscientific, impossible thought.¹⁵³ It becomes daily more evident how all Life is dependent,—compulsorily dependent,—upon Life. Upon this is based one of the annihilating arguments against the modern theory of descent. The vegetable world and the animal world are indissolubly bound up together; and we know now that the multicellular plants and animals cannot live without the unicellular, and that in the case of the majority of the latter the converse equally holds good. Not only then may one ask oneself why in the colossal evolution which is supposed to have been taking place unceasingly for æons there should still be a thousand millions or more unicellular beings for every single multicellular being, but one also asks how it is even possible to imagine a universal progressive development (development in opposition to a progressive shifting of forms) since it must inevitably result in the extermination of all Life. If then Life is for us the one and only source and cause of the idea of "unity," then Bruno's definition of an *unità*

assoluta senza specie alcune ("an absolute unity without any species") is utterly empty, a mere creation of abstraction, but as contrasted with truth an impossible and illogical nonentity. How could men of genius fall into such extravagances? It is because they had no conception of the transcendental connection of our recognition which arises out of different "stems," and so fell into the delusion of being able to arrive at the Whole by means of one of the two parts. Abstract Monism and materialistic Monism both rest upon fundamental one-sidedness: true conscious recognition only arises when criticism has called our attention to the double character of our consciousness; then we at last perceive that all experience without exception contains transcendental elements bound up in it; to confine ourselves fundamentally to the one, while arbitrarily ignoring the other, or arbitrarily referring the one to the other, is a crippling of our intellects.

And so now we come back to Kant. Yet a cursory recapitulation of the relations between him and Plato would be out of place here. As I remarked at the beginning, everything which we have undertaken to-day in the interest of the understanding of Plato's intellectual personality is directly applicable to Kant in so far as the creative fundamental method of thinking is common to both men; besides that many suggestions and combinations have made us feel the living connection. It would be a question of a more intimate comparison of the intellectual dispositions of the two personalities; for not only is "the introduction to Plato the education for Philosophy," as Natorp rightly observes,¹⁸⁴ but more especially in the case of Kant it is perhaps as a general proposition impossible to reach him otherwise than through Plato. Plato is the indispensable first step, because (as I indicated at the beginning of this lecture, and have tried to work out plastically by the comparison

of the two personalities), in him all that is positive, affirmative, and therefore, more sure, clearer, more easily grasped even if it should be rasher and more paradoxical, forces itself into view,—whereas Kant's negative method, his reserve, his prudence, his inexorably strict schoolmanship surrounds almost everything that issues from his pen with a quadruple fortification of inaccessibility. The attempt to take this last step, from Plato to Kant, will now be the object and aim of our next and last lecture. Just as the Leonardo lecture was almost a direct continuation of that on Goethe, so the lecture on Kant will be coupled with that on Plato.

I should wish, however, as the quintessence of what we have learnt, once more to insist upon the two following recognitions of Plato and Kant, for which we have fought in every lecture from the very beginning ; for in them is mirrored as effect what as cause gives the incomparable personal colour to the intellect of the two men : first human recognition has its origin in two perceptibly distinctive sources,—these taken together give us the “matter” of recognition, that is to say, therefore, that which is recognised : secondly, true recognition, i.e. conscious conception, does not arise without the addition of a third, not material but formal, element as to which we can never determine how far it is cause and how far it is effect.¹⁵⁵

Whether we call these two fountain-heads Visible and Thinkable with Plato, or Sensibility and Understanding with Kant, is immaterial, at any rate for us here who are not dabbling in philosophy, but only seeking to appreciate personalities. The only important matter is that this conception of Duality should reach you clothed in flesh and blood, for that is the only antidote against the misleading poison of monism and the slaves' fetters of ecclesiastical dogmas ; once renounce this conviction and all true critique of human recognition, and conse-

quently all metaphysics resting upon the critical foundation of experience become impossible. It is far more difficult to clear up the relations in respect of the mysterious "third." For to-day it must suffice if I have succeeded in giving you a more or less lively conception of what Plato understood by "ideas"; there you will see the "third" in full activity. In order to make matters clear we may make use of the following expression; under the word idea we understand a necessary method of all human thinking—not a thing which we can grasp with our hands any more than with abstract reason, but least of all with any hocus-pocus of inspiration, fourth dimension, and the like. Ideas are in a certain respect the counterpart of mathematics; their value is both instructive and constructive. That Plato and Kant do not conceive material things under the word ideas has been generally, but not universally, understood: but that a hypostatising of ideas, the creation of a special "world of ideas," could be nothing but materialisation in disguise has been quite universally ignored from Aristotle's time until now, because the critical fundamental insight has been lacking. We must not make ideas out of Plato's ideas, was one of Kant's keen remarks;¹⁵⁶ that is, however, exactly what we do, whether it be in order to accept them credulously or to reject them with ridicule.

Plato and Kant, however, were practical men: they only dealt with philosophy in order to be free of it: their interest lay in morals, in the building up of society, in the cultural accomplishment of man. And that is why, when their critical work is at an end, they turn to construction: the critique of recognition is premised, but not dragged in everywhere; the ideas come last, precisely because these men decline to be dogmatists—they come last because they absolutely refuse to penetrate into the dream-land which lies on the other side of ideas. That is why Plato in his great cosmological fiction,

the *Timaios*, introduces Idea as the father, and phenomenon as the son, with many other similar hyperbolisms, to the significance of which as parables he is continually pointing, and over the extravagance of which he, as occasion serves, laughs with a delightful irony directed against himself (*Rep.* 509 C). Kant behaves in the same way : at his hands the doctrine of ideas suffered a reduction which many may deplore, while it at the same time acquired a deeper import, and he teaches us to distinguish between that which is extravagant in theoretical use ("extravagant" exactly corresponds to Plato's *ὑπερβολή*) and that which in the interest of practical life, is to be held fast as "a principle of conduct."¹⁵⁷ Here, as all experience has shown, the great danger arises. Since we ordinary mortals, with our perverse inclination towards monistic conceptions, do not choose to understand that for all scientific critique and all idealism, the dualism which experience has given us must serve as foundation,—so we also fail to understand that there is an unbridgeable gulf yawning between theoretical recognition and practical commandment, and rather than understand that we sacrifice the one or the other, and become either dogmatists of reason or nihilists of Duty.

We shall hear more of this in the next lecture : I offer this much as a mere hint, and in order, upon this point, to effect a breach in the old fortifications of lies. We will wind up with one of those master-sayings of Goethe with which that grand man conjures up whole solar systems for the illumination of worlds shrouded in night.

Goethe, who from the very outset was not gifted with that special aptitude for analysis which distinguished Plato and Kant, and who moreover had been spoilt for metaphysics by his early intercourse with Spinoza, who operated as a steriliser in this respect,—Goethe was equipped with another faculty which was proof against all modern cabala, and which I have been bold enough

to call inverted or topsy-turvy criticism. To that we owe a saying which Goethe intended only to refer to the investigation of nature and of those forms in nature which can be realised by the senses, but which at the same time in the shape of an aphorism lends a creative expression to the critical thought of Plato and Kant, and to the inseparable conception of "idea" which springs from it. Goethe says, "the highest (result) would be to understand that all, that everything real, is indeed theory. Let no man search behind the phenomena: they themselves are the lesson."¹⁵⁸ If you take the pains to reflect upon this saying you cannot fail to understand Plato and Kant in the pith and core of their doctrine of ideas, a doctrine so difficult to put into words and therefore possessing the attractiveness of a secret; for what Goethe utters here with a simply concrete intention, describes exactly what those men strove to express of human recognition in general as the result of their critical efforts. Plato says the same when in his wise old-fashioned way he writes: "The *Nous* (that is to say, reason which forms ideas) is related to cause" (*Philebos*, 31 A), that means therefore, man does not create facts, but he clothes them in form, and is to that extent "related to cause," for which reason Goethe, who sees the same thing though he looks in the opposite direction, is compelled to recognise the fact that "all that is fact is theory." And now for Kant. True to his negative predisposition he puts the same view into words which must seem like a riddle to those who have no previous training: "Our idea is a problem which allows of no solution and which we yet stiff-neckedly accept as if there were a real object corresponding to it." Idea a problem! an insoluble problem! That was why Goethe in the passage quoted added the caution against seeking behind the phenomena. That is a concrete utterance: the critique of recognition which has followed the reverse road, inasmuch as it takes the

phenomenon as its starting-point, in order from thence to travel inwards says : " Let no man search behind the ideas," and that saying proves that it is undogmatic and anti-dogmatic. Whoso, on the contrary, seeks for something further, either behind understanding and sensibility (that is behind the phenomena) or again behind reason and its ideas, leaves the terra firma of experience : he invents therefore, and dogmatises : he behaves uncritically, and sets himself in opposition to the maxims of Plato and of Kant.

And so out of the motto which I prefixed to this lecture, and the final quotation from Goethe, we will make up a double apophthegm to sum up all that we have been learning to-day. " From the Gods a gift to the human race ; thus should I reckon the gift of seeing the one in the many,"—thus spake Plato, and Goethe's saying translated into Plato's world of conception, and into the language of Kant would be, " The highest would be to understand that all phenomenon is indeed Idea." To see the one in the many : that is the work of Idea ; to be a man, means to possess the power of forming ideas : that is the gift of the Gods.

KANT

SCIENCE AND RELIGION

WITH AN EXCURSUS ON THE "THING
IN ITSELF"

The value which life possesses for us reckoned only by what we enjoy, is easily decided: it falls below zero. Nothing remains but the value which we ourselves give to our life by means of that which we not only do, but do to an end so independent of nature that the very existence of nature can only be thought of upon this condition.

Immanuel Kant.

KANT

IN this last discourse there is no need to waste time over any preamble; for the previous lectures should have placed us in such a position as should enable us to take a final and conclusive survey of the workshop of Kantian thought, without any risk of carrying away with us half-understood utterances and anæmic conceptions in the place of clear perceptions.

Our plan from the outset has been to keep in view the proposition that all human recognition consists of combinations. Our first lecture pointed to the specially complicated relation between Idea and Experience: in the second we saw how conception and perception came to an almost inextricable conflict in consequence of the one-sided methods of our modern science: the third addressed itself to constructive criticism and to the fundamental distinction which it draws between understanding and sensibility in all experience of nature, the one being impotent to effect anything without the help of the other; and here we first began clearly to recognise the combination of duality as an essential condition of all thinking: this view was theoretically carried further in the fourth lecture, when we saw those two dissimilar elements, differently developed and differently proclaimed by the various thinkers, and in which we pursued the error of all monism to its very roots; but it was only under the leadership of a truly critical thinker like Plato that the matter could be cleared up. Here we found a grandiose and perfectly plastic union

of these combinations, which constitute the woof and warp of all our thinking, in the manifestation of a life which, looked at from the visible or sensible side, is consistent organism, that is to say, form, while if taken from the conceptual or intellectual side, it reveals itself as organic unity, and that means Teleology,—and that in such a way that neither of these two notions would have any thinkable meaning without the other.

We shall shortly have to return to these relations, which Kant teaches us to designate as "transcendental." But let me say at once, for I think that I am here bringing forward something which, thanks to what has gone before, will no longer be an empty phrase, that this combination, or in other words, this apprehension, according to which experience, thought, recognition, truth, always arise out of the conjunction of duality, is not only characteristic of Kant's theoretical thinking, and of his philosophy in the narrower and more professional sense of the word, but, as a general proposition, of his whole intellectual personality,—of that which he was, and of that which he desired. In a comparatively early work, *Von dem ersten Grunde des Unterschiedes der Gegenden im Raume* (on the first principle of the difference of regions in space), he gives us the deepest reflections on the essence of "right" and "left,"—reflections which when examined critically contain the germ of all criticism. The clearness of his intellect, his persistent pains to draw boundary lines, to distinguish with the utmost care between words, conceptions, thoughts, sciences, intellectual powers, ideas, and systems,—so that there should be no interchange of powers, no encroachments with their consequent confusion,—are facts that in the last resort must be attributed to the fundamental, innate, peremptory, and gradually ripened sense of duality in every intellectual activity. What Plato taught us in his *Theaitetos* (182 B), that nothing is thinkable which can be described straight

away as unity, inasmuch as every "something" and every thought consists of the uniting (*συνήνωμαι*) of two things (see p. 507), that with Kant is the beginning and the end; it is not only the fundamental instinct which gradually developed him into the keenest analyst of all times, but it is also the fundamental perception which becomes more and more firm and powerful in proportion as his philosophic views become riper and more perfect, so that the mighty synthesis which is worked up in ever-growing degree in his three critiques—*Reine Vernunft*, 1781, *Praktische Vernunft*, 1788, *Urteilkraft*, 1790, consists not in a fusion, but in a combination.

This is a fact which repeats itself everywhere in Kant, no matter what stage of his thought and of his life we are considering. But if we seek for its commonest and most comprehensive expression, we find it in the sharp distinction between the theoretical and the practical. If I had said between theory and practice you might easily misunderstand me, for we are apt to give a rather frivolous meaning to those words: theory tells us how we ought to act, practice shows how we act in reality: that is not Kant's meaning. By "theory" Kant understands theoretical philosophy, and therein the critical analysis of human recognition: what is recognised here is nature, about which we do not possess mere inconsistent rhapsodies, but an exact, objectively certain, recognition,—that is shown by the existence of an exact science of nature; Kant does not ask with the hair-splitters, is there any such thing as positive science? Can such a thing be? and so forth;—but he says, "that such a thing exists is evident since the days of Galilei and Newton"; and then he asks himself what inference is to be drawn from this fact in relation to our human intellectual organisation; ultimately then "the theoretical," as Kant conceives it, rests upon the fact of natural science, but aims at establishing the value, the exact importance

and the boundaries of a scientific doctrine of recognition. By practical philosophy Kant does not understand "the technical," nor the rules of executive skill, but rather an enquiry into the dealings of mankind, of man considered as an autonomous personality, that is to say, as independent of that nature, the immutable laws of which science investigates, and as subject to peculiar laws of its own; just as in the one place the fact of science serves as foundation, so here the given, undeniable fact of moral personality serves in the same way: here too there must be the element of law: if none such existed the conception of a personality would be void: it could not be grasped, it would be a mere rhapsody: the person would not be the experience which it is: but this subjection to law must manifestly be different from that of nature: we call it Freedom; its laws are commandments, ethical commandments; and if we look into these commandments of freedom as methodically and clearly as we do elsewhere into the subjection of nature to laws, then we arrive at an exact understanding of what Kant calls, "Religion within the boundaries of pure reason." Within the experience, or whatever you choose to call it, of man, there exist nature and freedom as the two fundamental facts facing one another; "the theoretical" asks for an answer to the question, What is recognition of nature? "the practical" for an answer to the question, What is freedom? Just as little as the searching and, as far as possible, unbroken criticism of the theoretical is in itself a science of nature, only establishing the essence and the functions of recognition by an exact analysis, so too the thorough criticism of the practical is not itself religion, though in a similar way it fixes the domain and the boundaries of all religion, thus showing once for all where superstition and delusion begin.

Out of this survey we have arrived at four fundamental contrasts: laws and commandments as the given

facts ; nature and freedom as ideas under which we comprise the facts homogeneously ; theoretical and poetical reason, as methods or intellectual implements, by means of which we may investigate these facts by thought ; science and religion as systems in which the sum of our knowledge and opinions upon the subject of each of the two series of facts is dissected and represented. There is, however, certainly one difference to which attention must be called in passing. We may say of the two methods—that is to say, the theoretical reason and the practical reason—that they branch out into two opposite directions from a demonstrably single stem. As Kant writes, “ It is always one and the same reason which pronounces judgment, whether it be in a theoretical or a practical sense ” (pr. V. 2 B, 2 H, 111) ; on the other hand, the permanent facts of experience (the laws of nature and the moral commandments) and consequently also the changing collective conceptions (science and religion) are and remain absolute contrasts, between which, as Kant says, “ there is fixed an illimitable cleft, so that there is no possible crossing over from the one to the other, just as if they were so many different worlds ” (Kr. d. U., Introduction II, p. xix and p. liii).¹ Yet in spite of this “ illimitable cleft ” nature and freedom are inseparably united,—united indeed in the personality of every human being : it is just this combination which makes a man to be a man ; it possesses for the essence of personality exactly the same significance as the combination of form and teleology possesses for the essence of life ; it is a transcendental union by means of which “ the Thing ” first arises : neither of these two contrasts has any existence without the other : there can be no nature without freedom, no freedom without nature : and so it is that this duality forms a unity. It is a gross error, as we saw in the previous lecture, if we believe ourselves to be able to see organic form, unless, consciously or

unconsciously, the thought of purpose or teleology realises itself in this form : and this is true of the converse ; in the same way it is the mistake of an intellect not yet cleared by criticism, if we think that we can represent freedom to ourselves unless nature should, as it were, form the background from which it raises itself, or that nature with its fundamental law of cause and effect possesses a meaning, unless the personal experience of freedom teaches us to think this thought of causality. This unity of duality, however, is not a logical unity : it is not the reduction of nature and freedom, of science and religion, to one and the same thought ; in other words, it is not the factitious and subtilised unity of the Monists, but it is organic unity, that is to say, as we know, a unity of which the essence is that it should be plurality. Well, does Kant more than once insist that this whole system of faster and looser combinations, out of which our intellectual activity proceeds, might possibly spring from a common but to us unknown root (see pp. 145-6) ; as a genuine critic he cannot exclude this possibility ; yet the consideration of the matter has no theoretical or practical value in his eyes, for, except by fiction, by enthusiasm, or dogmatisation, there is nothing to be made out of this idea.

It will be intelligible to you that a philosophy of this nature should be called "critical philosophy" : the Greek root-word means to distinguish, to part, to sift. You need only open your eyes and look around you. Everywhere you will become aware of a lack of clear distinction of conceptions and domains. On all sides the fight between religion and science is surging ; none, neither men of learning, nor the ignorant, neither the investigators of nature nor the theologians know the boundaries ; only a few suspect that they exist. The Pope of Rome maintains that true science, *Vera Scientia*, is a property of the Church :² while at the same moment

the ultra-modern psychologists and ethical societies are labouring to bring into being an empirically logical "substitute for religion." The most complete and unhappily still active example of the irretrievable confusion of domains was furnished by Spinoza with his famous formula *Deus sive Natura*; here religion and science are³ so confused that there is no longer any possible distinction of their respective domains, and so we come to the experience of a "geometrical doctrine of morals" and a nature which must be "conceived out of God"⁴ (*Ethica*, I, prop. 15 and 18), hence a scientific religion and a religious science. In all this unintelligible jumble the "herd of subtilisers," as Kant disrespectfully calls them, finds an unflinching joy, and the "immanent monism" as this hocus-pocus dubs itself still flourishes luxuriantly amongst a generation who are Kant's grandchildren. In this philosophy we have the direct opposite to that of Kant. Kant refuses to take one step outside of the field of possible experience: whatever pretends to come from beyond that field he dismisses as "fairy tales out of Utopia" (Tr. II, 1), but experience,—that is to say, the exact observation of that which has been experienced,—shows us that in our intellect every apparent unity arises out of the meeting (*συνέγνομαι*) of duality.

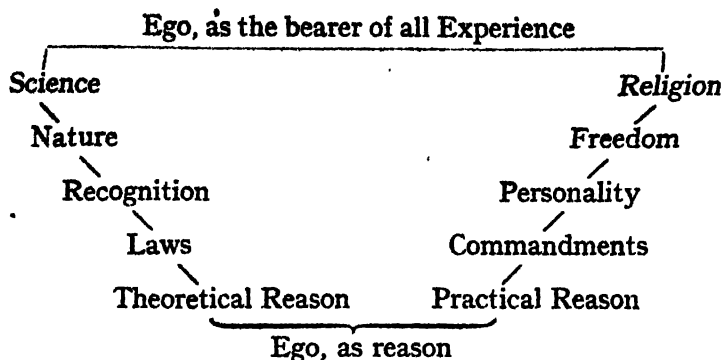
Once we make ourselves clear as to the results of this method, which cannot but be of service to us in our purpose, we see that Kant's most comprehensive division is that into nature and freedom.⁵ There is a nature, that is to say, a world in which freedom never and nowhere comes to the front, a world which would be annihilated by the mere thought of freedom, and in which as a consequence no morality, no responsibility, no sympathy has place or meaning, since everything in it proceeds mechanically according to laws without a flaw, in the eternally immutable sequence of necessary reciprocal

action ; and there is a freedom, that is to say, a world in which not that which is, but that which ought to be, is the law,—a conception which in nature would be utterly unmeaning, out of which a totally different order arises, in which the conceptions duty, merit, kindness, dignity, holiness, etc., gain importance, and in which the commandments and moral ideas correspond to the laws and nature-ideas of the first-mentioned world.

Let me make a diagram of the result of what we have been anticipating,—this series of the great, universal, accurately corresponding contrasts, carried only so far as is absolutely indispensable. We start of necessity from the Ego, and however widely the series of thoughts flying from one another may strive to diverge, the Ego in its knowledge and opinion still gathers together all that exists for us. So it is immaterial whether we begin methodically from the distinction between theoretical and practical reason, and thence rise upwards, to that which is more and more complicated, until on the one side we come to science and on the other to religion ; or whether, on the other hand, we take the great synthesis science and religion as the given starting-point and then keep widening out the series of conditions, until we find the ultimate most elementary branchlets in the various practical proofs of reason. As a matter of fact it was the latter way that Kant pursued ; he is just a scientifically empirical observer, not a speculator : but in his method of representation he followed the contrary way, the one which he called "scholastic."

This table, as I think, speaks for itself ; whoever is a stranger to the world of this critically analytical thinking, will in it find matter enough for thought. Only a few words more by way of explanation, in order to guard against any possible misunderstanding.

Every single expression exactly corresponds to the one standing opposite to it on the same level : the divergence,



however, increases by degrees from below to above. Practical reason is nearly related to theoretical reason ; it is not possible to discuss either of the two without the other : commandments and laws too are in appearance near enough to one another to be occasionally interchanged by the inexperienced,—we say moral law just as readily as moral commandment ; the distinction between personality and recognition is perhaps the clearest for mankind in general. That freedom and nature stand still further apart from one another is assuredly a fact which anybody can see as soon as he has learnt to open his eyes,—were this not so it might occur to him that the earth attracts the moon out of a feeling of duty, and that the fact of an honest man not betraying his trust is due to the operation of the obliquity of the ecliptic ; in general, however, the confusion of domains is here inextricable, simply because we have not sufficient command of criticism to disentangle the very diverse operations of our reason in dealing with the subject-matter afforded by experience. This distinction between Science and Religion, if we examine both intently, is so complete that they can in truth only be placed in relation to each other in so far as they present themselves as united in the consciousness of a single being ; and yet for lack of the

critical power alluded to we do not possess a clear perception of the cleft which separates them : besides which there stands here every intellectual narrowness, every superstition, every moral vulgarity, together with the immeasurable community of interests of the speculators in religion of all the confessions of the world, as a closed phalanx against any attempt once for all to arrive at something clear. So much for the contrasts. But as regards the serial sequence of conceptions from below to above, where on both sides of my diagram the one seems as it were to grow out of the other, we must not attempt to show a logical progression : it is no case of foundation and consequence, of cause and effect ; we might more appropriately think of concentrically widening circles. Yet this comparison only leads us approximately on the right track ; for the rungs of this ladder differ from one another not only in extent but in value : religion and science are systems, artificial and artistic constructions, in which our knowledge and our opinions are ordered into a perspicuous whole ; freedom and nature are ideas in which and through which our reason visibly represents to itself facts ; personality and recognition are conceptions, the former symbolical, the latter schematic, in which, to express myself allegorically, the transition between within and without, between reason and empiricism is effected (see I, 285 *seq.*). Commandments and laws are the given facts ⁶ as ordering reason first grasps them,—they are its material ; theoretical reason and practical reason are methods of consciousness.⁷ We are dealing, therefore, in an ascending series, on the right hand as on the left, with methods, facts, conceptions, ideas, systems : every stage corresponds with a different function of our intellect. My scheme is only intended, as you see, to exhibit certain relations of reciprocal forms in the space of thought. Such schemes should be looked upon as comparison ; we require of a comparison that it

- should illuminate a course of thought, not that it should serve as a substitute for thought: what we expect is a suggestive operation, not a portrayal in the shape of an exposition, and that holds good here.

Here we may pause for a moment. It has been my aim at the very beginning of this lecture to place you in sight of the very simple ideas of this philosophy, of this method of surveying the world: the very simple is always at the same time the very great; it is also that which is universally intelligible. That at any rate is what Kant has in his mind when he utters the memorable words, "True wisdom is the companion of simplicity," and adds, "it enables us for the most part to dispense with the great equipments of scholasticism, and its aims need no such means as can never more be accessible to all mankind" (Tr. II, 3). It is impossible that Kant's critical work can ever in its technical details become common property,—Kant knew that full well and wrote, "my method is not very well fitted to attract the reader and to please him . . . only the human understanding fails here by reason of subtleties and must be refuted" (Ref. II, 6). Kant then only becomes subtle because he wishes once for all to sweep away the subtleties of the sophists, and the fine points of his contentions serve him rather as an indispensable protection against false arguments than as foundations for his own thought-building. We also must ask ourselves the question—What do we mean when we affirm that Kant must become a factor in culture? In the main we can only deal with that wisdom "which enables us to dispense with the great equipments of scholarship." Influence over wide circles can only be won by simple conceptions. The Kant who reveals the transcendental properties of the human intellect remains accessible only to a very small minority: the Kant, on the other hand, who might succeed in setting free all the leading intellects of the

world from the night of the superstitions of decades of centuries, and in bringing them over to the bright daylight of the belief that religion and science are two entirely separate domains, each of them autonomous and autocratic within its own boundaries,—that Kant must be the founder of a new epoch in the history of mankind ; it must be his to break the tyranny of the churches for ever, and once for all to brush away the fantasies of the “ natural philosophers.” Then at last the human intellect would be free. “ The salvation of freedom ” is indeed Kant’s highest aim.⁸ But if we turn our gaze from political freedom, and look only to the freedom of our human reason, we become aware that this freedom is continually being robbed from two sides at the same time, namely from the side of theoretical reason, and from the side of practical reason : the priest of science, says Kant laughing in his witty way, leaves mankind nothing but “ the freedom of a wound-up turnspit ” (pr. V. I, end) ; the sort of freedom which the priest of religion leaves us is a matter of common knowledge. And here there is a still more important consideration : Kant points out that the unsophisticated investigator of nature, who in his innocence ventures upon dabbling in the domain of practical reason and of the moral commandments, who retails miraculous fables about the souls of animals, about Darwinist morality, etc., is not only guilty of working mischief in the domain of freedom, but is actually from the very outset hindering the observation of empirical nature ; whilst his counterpart, the theologian, who is so accurately informed upon the subject of the making of the world, the object of creation, etc., is not only bringing dire confusion into the science of nature, but is, at the same time, undermining the true foundations of genuine religion. The science, on the contrary, for which Kant strives, is a pure science, flawlessly mechanical ; whereas our anti-metaphysical empiricists, such as Mach,

Haeckel, Ostwald, and others, are ever and again crossing over into a domain outside of mechanics, into what Kant pointedly calls an "imaginary science"; and the religion which Kant desires is a pure religion, that is a religion purged of all history and of all dogma. It is out of the confusion of domains that dogma, scientific as well as religious, arises. If theoretical reason only, or practical reason only, oversteps the mark, that constitutes no irremediable evil; it is in this way that ideas, in the narrower Kantian sense of the word, arise, and these are indispensable for the systematic moulding of science as well as of religion. Precisely because no web of dualism arises in these genuine ideas,—or at any rate because the slightest test serves to dissipate its appearance,—they become fused like cloud-pictures as soon as they are closely examined; they render good service and do little harm: as examples only think of the æther, and of the conception of grace. But when the intellect breaks out in both domains at once, whilst under such covering words as "soul," "plan," "unconscious," etc., it tries to smuggle a little freedom into science, or, with all theologians and theosophists, tries to draw nature into the authority of religion, then there arises a sham web hard to destroy, and that is the birthplace of dogma. That is what, in order to express it allegorically, if you please, but rightly and powerfully, I should like to call the Sin of Thought: it is the sin against our own being, against the intellect which should be sacred to us: it is at the same time the hereditary sin in the Thinking of our race. Kant then wishes to redeem us from this sin, from the night of dogmatism: that is the function of the "pure" distinction of domains. It in no way destroys the unity of our being, it is rather a question of the true, conscious culture of human individuality. Kant defines culture as "the bringing to the front of the aptitude of a reasonable being for all and any object, consequently in its freedom"

(Ur. § 83). But in order to be able to build up this freedom of ours, and to make full use of it, we must be instructed in two particulars, first, as to the limits of our abilities, secondly, about the directions which are open to us without limitation. We must, on the one hand, learn "to confine all our speculative claims only to the field of possible experience" (R.V. I, 395), and, on the other hand, we must learn to perceive that, as Kant expresses himself, "freedom is man's work,"—that here everything depends upon ourselves, i.e. upon our perceptions and intentions, and that it is accordingly incumbent upon us men to raise ourselves out of the condition of an animal race into a moral genus, inasmuch as it is our duty now consciously and systematically to take in hand that culture which has hitherto proceeded as it were without any plan. (Cf. Kant, *Mutmasslicher Anfang der Menschengeschichte*). Man must be a creator where he can, that is in the realm of freedom. Here the "know thyself" of the Hellenes surges up again in a new and more exact form. For man can only become a conscious systematic creator in respect of himself, if he grasps the same method which has proved so successful in the case of nature: the exact analysis of his complicated being, the exact distinction between the practical and the theoretical, between freedom and nature, precision in the recognition of his own self, must form the foundation. This would not only bring about a far-reaching transformation of his scientific and religious ideas, but would also in the end work a change in all human relations. Kant, for all his modesty, enunciates it with precision: his philosophy makes for a revolution, against which all previous merely political revolutions shrink into insignificant episodes: he wishes to realise ideas, but not by fanaticism and philosophical phantasies, but by the dispassionate and conscious change in the direction of human thought and will, a change worked out slowly but surely in the humble

study of the quiet thinker. He comforts himself with no illusions ; " I much doubt whether I shall be the man to bring about this change ; the human mind is such that besides the grounds that should enlighten it, time is also necessary in order to give it strength and impetus " (Ref. II, 18). Yet, however that may be, in this way, sooner or later, that " Kingdom, which does not exist, but which may be realised by what we do and by what we neglect to do, will be brought into being " (Gr. II, 1). All this means a complete change in all those conceptions and habits in science, religion, morals, law, society, which show us to be in intimate brotherhood with the Babylonians of six thousand years ago : it means an upsetting of all values such as the devotees of Nietzsche and his school have never dreamt of, a growth of mankind, an accretion of strength over all that it has hitherto been, not by the idea of a will to possess power, but, on the contrary, by the finer moulding of man's consciousness, by the clearer apprehension of his intellectual organisation, and so (which is the same thing) of the organisation of the world of his experience,—in other words, by the still more tightly fettering of the dumb-beasts' instincts of his will in the service of a reason perfectly self-controlled and consciously creative.

This thought I take to be Kant's great cultural accomplishment ; it is what concerns us all ; it is what we can all assimilate sufficiently to be taught by it : it unquestionably forms the living centre of Kant's way of looking upon the world : it was his starting-point, to which the toilsome path of nearly half a century of critical work brought him back. And it is precisely upon this that you will find little or no instruction in the writings of the professional philosophers. How many of them have really grasped Kant's practical view of life ? How many of them see on the scale on which he saw ? How many know what he means when he, the grim enemy of all the metaphysics

of the schools, talks of "the leaking vessel of the Danaids," as he sarcastically calls metaphysics in one of his latest writings,—and when he says, in spite of that, "I am convinced that the true and lasting weal of the human race depends upon metaphysics" (R.V. 8, 4, 1766). If you now know, or at any rate if you suspect, the services which are rendered by metaphysics towards the freeing of the human race, towards the freeing of freedom, and towards nothing else, then you have gained an advantage which may comfort you if you fail to follow Kant in many a subtle scholastic question.

It is good every now and then to allow the impression of a mighty whole to work as a unity upon oneself without stopping to consider any one detail. Even if there should be much in this introduction which remains hazy to you, do not let that trouble you. Kant himself, the painfully conscientious man, says, "it often happens that the analysis of a thought weakens the effect which it brought out, dark and undeveloped as it might be, whilst it was yet entire and unbroken."⁹ It is therefore important not to be in too great a hurry, but rather to dwell upon the general thought which we conceive upon a large scale though darkly; that is one of the laws of our $\psi\upsilon\chi\eta$: we must gather strength as a machine gathers heat; even Goethe, the master of us all, teaches that the great problems must in the first place "be treated with a sense of lofty passion"; it is questionable whether a new view can as a general proposition be grasped without some such driving or attracting power. To follow Kant in detail would be the work of a lifetime: I should be loath to say anything which should weaken this proposition: far be it from me to rock you in the belief that Kant is easy to understand; what I do wish is to inspire you with a lasting ambition to understand him. Let each man follow as best he may, according to his pleasure and power. We Englishmen have a way of

saying about such great, half-understood thoughts that "they grow upon one," they grow of themselves high above our heads, and lock us in their embrace ; it is like Parsifal's approach to the temple of the Holy Grail : the fool takes only a few steps towards it, "I hardly step, yet meseems I am already far," and the holy sanctuary is all round him. In like manner I have tried to take you at once into the heart of Kant's world : the atmosphere of this world must exercise a certain spell, and under its influence the otherwise almost unattainable thoughts will no longer seem so alien to us.

The aim of these lectures will not suffer me to dally here as I fain would do. It is not Kant's work that I have promised to set before you, but something quite different,—an introduction to his work by familiarising you with his special way of thinking. Once more then we must dive into the depths of his personality.

In the highest degree characteristic is an admission of Kant's uttered at the time when critical thought began daily more and more to exercise his speculations. "Often Alps rise up before my eyes, when others see a level and comfortable path along which they wander or think that they are wandering" (Tr. I, 1). Kant will never be understood unless the same difficulties be felt which he felt. He sees mountains where others wander over the plain ; and that leads us to the conclusion that his thinking struck upon a new and hitherto untrodden direction. Yet if we study and judge Kant without having made ourselves clear as to the direction of his thought, then we not only misunderstand him, but the misunderstanding grows with mathematical necessity like the distance between two diverging lines : then the more we think about him the greater the misunderstanding becomes : that is the story of ninety-nine out of every hundred commentators on Kant. The first point then is that you should strike the right line, the

unaccustomed line, the one which is opposed to all our inherited and inbred habits of thought. So soon as you achieve that, those Alps of which Kant speaks will arise before your eyes, and then you must climb those rugged walls, for on the summit is Kant's standpoint. The man who without more ado thinks that Kant's philosophy is manifest to him,—whether he be friend or foe to it,—he surely does not understand it: whereas to the man who sees the obstacles that Kant saw, travels along the path which leads to the new recognitions which he discovered, sooner or later that revolution of which we spoke just now will take place in his intellect. As you see, the question is simple enough, and yet for that very reason almost impossible. The *Kritik der Reinen Vernunft* was written by Kant in five months: but he had wrestled for twenty-five years before he, in his dissertation of 1770, distinctly admitted the true line of thought, and twelve years more of unbroken thinking did it cost him before he had finally won his standpoint.¹⁰ That must account for the obstinacy with which I over and over again bring you back to the same or very similar reflections; for in the first instance my duty is confined to giving your intellect a single impetus: you have to learn like our mountaineer in the Bruno lecture to turn round,—to give your Thinking the new direction; when you have done that you will see the problems of our Thinking and Being in a new connection: then you will be ripe for Kant's work, and have no further need of me.

Let us have recourse to Plato: in that way we shall surely gain possession of plastic elements.

In our predilection for simple formula we found the following in our last lecture. Plato proceeds positively and affirmatively, Kant negatively and contradictorily. That must strike every man who observes with even slight attention. But we know from the Goethe lecture, and have often found it confirmed since, that a simple

observation of that nature only has any value for the recognition of personality, because and in so far as it leads into the depths. A fact only gains a value from the use which we make of it. Here we must make ourselves clear: why is it that we clutch at the great simple relations and apply them to the investigation of personality? The consideration of the question leads to the following result. The analyses of persons built up of thousands of indications, such as men of letters and novelists are so fond of giving us, are an illusory labour, a game; for the mystery of life is the singularity of the individual. The man who sets out before me the multiplicity of thousands of conditioned manifestations, is a mere reporter, at the most a soul-photographer: what he gives is history: it is knowledge, not science. "Knowledge," says Goethe, "rests upon the appreciation of that which is distinctive, science upon the recognition of that which cannot be distinguished."¹¹ In other words, knowledge brought into form arises out of the fact that, as Plato taught us, we see the one in the many. We are therefore surely in the right way if we search for simple recognitions, and leave subtleties out of the question. We saw in the former lecture that in life unity means form. Every form of life, even the meanest, is a symbol of the eternal: for the relations which are here before us are unthinkably manifold, and have neither beginning nor end: but form itself is limited and unconditionally unified, for that is its essence: it is unity, *κατ' ἐξόχην*; it alone can therefore really be grasped; besides, our sensibility shows itself as more congenial to nature than our understanding. But if, considered visibly, the essence of life is form, then of necessity the deepest depth of thought must also be form, since thinking is a phenomenon of life. And just as in the visible world life-form gives birth to life-form,—indeed under such sure if incomprehensible laws of ever-reciprocal con-

ditions, that a single bone is sufficient to enable the expert to reproduce the whole form,—even so must the form of thought bring forth thoughts, and the true investigator of the inner man will aim at grasping the simplest features, because from them alone can he hope to establish the fundamental lines of this physical form,—by which then all that is possible for the knowledge of the personality is attained. These simple recognitions, however, are only of use when by their help “form” is really built up. No single line suffices for building up figures in space; it needs a system of co-ordinate intersecting lines; in the same way too there is necessary here a methodically chosen system of certain simple and true recognitions reciprocally supplementing one another. Otherwise the only result is a flat picture. So, for example, the observation, otherwise correct, “Goethe all eye, Kant no eye at all,” would have appeared quite erroneous, had it not been supplemented by a series of other observations, which, as it were, came to the assistance of the one which had been originally made. Simple recognitions of this nature furnish one another reciprocally with meaning: taken by itself no truth is other than empty; the man who confines himself to the simple truth is an incontestable phrase-monger; but if we have correctly selected our recognitions in consonance with truth and then carefully observe the points where they intersect one another, then we obtain by degrees the outline of the form for which we are seeking. So we will complete the saying about the affirmative Plato and the negative Kant by two others which directly intersect it.

The man who in the domain of critical thought is affirmative must of necessity speak in parables: Plato is a case in point, and we have seen what an imperishable living value lies hidden in such fictions, but at the same time to what endless misunderstandings they lead both in enemies and in friends: the man who, on the contrary,

is negative as a matter of consequence defines, and in defining obtains strictly circumscribed forms : you will. I hope, understand in what a conditioned and yet entirely and positively real sense Kant,—the so-called man of negation, barren of all imagination,—is nevertheless of the two men the one who deserves the title of constructor. Thinking is for Kant a process of building up. He says, " the human intellect is by nature architectonic." That intellect which in himself was developed in such extraordinary measure, was also therefore that of a great architect. That is one observation to which we will at once add another as supplement. Since Plato is in so high a degree a Seer, who aims at grasping everything by the help of his eyes, Logic for that very reason, wherever he makes use of it, appears hard and arbitrary, like something foreign and artificial—think only of the many dialectic discussions, of the logical proofs for the immortality of the soul, and all manner of similar subjects, in which at last everything seems to be in suspense without any firm outline, and remember how the born poet and Dionysus-like intoxicated seer of forms scourges himself with the asceticism of a tyrannically self-imposed scorn of art, and in his state of the future hands over poetry and music to the pedagogue and pedant : Kant, on the other hand, the thinker and logician, into whose colourless life art never penetrated, was nevertheless above all men the discoverer of the essence of beauty and of the essence of creative art, the possessor of a special gift, peculiar to himself, of giving a schematic visibility to the most abstract thinking,—the only form of visibility possible in the circumstances. Kant is therefore not only a constructor by right of negative definitions, but he is also an artistic constructor of schemes.

I take the significance of form in Kant's philosophy to be one of the most important observations that can be made as affording an introduction to his work. For since

we have in what has preceded recognised "direction" as a first requisite for all understanding of this philosophy,¹³ I must here add by way of supplement, that we generally lose the direction in Kant, even before we have set out on the special journey. When, shortly before his death, Kant surveyed his life's work, he called his transcendental philosophy "the science of forms";¹⁴ (Üg. III, 393). On the other hand, amongst the Kantians it has become the current custom to give up form in Kant in favour of what it contains, and indeed generally of only part of the contents, of a few so-called fundamental thoughts, just as they suit this or that person.

You will find the proofs of this everywhere. I open one of those books on Kant which are the most read by all students and cultured persons, and find Kant's system reproached with being "stiff and formalistic": most of his arguments are "casual and failures";¹⁴ but his "great fundamental thoughts have a lasting value." And one of the most famous professional Kantians, in his memorial lecture, on the centenary of the philosopher's death, assured us that "the form of the Kantian system might perish,—what does form signify?" It is, therefore, assumed to be plain without further discussion that it is possible to set Kant's thoughts free from the form which is peculiar to them; people seem not even to ask themselves whether the so-called fundamental thoughts which remain over can really be Kant's thoughts. This way of looking at form and contents as two separate entities with which we may deal singly as we please,—this conception of form as something which can ever and anywhere be treated as a matter of secondary consideration, is a legacy of the most barren scholastic epochs of the Middle Ages. It is time to take a lesson from Gustave Flaubert; *l'idée n'existe qu'en vertu de sa forme* (Lettres, I, 157).¹⁵ Yet here, where we are dealing with the most masterful and at the same time most patient constructor

of form in the domain of thought that ever lived, we ought very earnestly to reflect whether it was not in this same scouted "system," in the organisation which was thought out down to its minutest detail, that the greatest power of his life's work lay. In addition to this the careful observer cannot fail to be struck by the fact that even in the case of his enthusiastic adherents, the moment they renounce Kant's form its contents also by degrees fall to pieces. That was the case with all, from Fichte downwards: Kant was admired, but men thought that they might look upon the "form," the "system," the "schemes" of his manner of thought as matters of secondary consideration: yet it soon became evident that those much-belauded "fundamental thoughts" had been understood in a spirit as unlike Kant's as possible, and every day removed men further and further from him. Only take Schopenhauer to wit!

Schopenhauer in his principal work speaks with reverence of "the great Kant," and at the end he professes himself to have "done no more than carry into effect Kant's work," and thus the impression is created that he identifies himself completely with Kant. But there is one thing which he rejects at once, and that is Kant's form. On almost every page of his criticism of the Kantian philosophy (*Kritik der Kantischen Philosophie*), of his exegeses (*Erläuterungen*), and also in other places, he scoffs at "Kant's love of architectonic symmetry," he compares it contemptuously to Gothic church buildings, calls it "child's play" (*Spielerei*), and maintains that it "leads to farce," and so forth. In regard to the distinction between theoretical and practical reason, at the meaning of which we have arrived at the outset of our sketch to-day, and which constitutes the conditioning fundamental thought of Kant's whole system, Schopenhauer grows witty: "in obedience to the love of architectural symmetry, theoretical reason must also have a

pendant " ; he does not see any deeper connection. And like the general outline of the building, so by degrees every feature of the form which Kant had given to his view of the world, is first derided and then rejected : nothing is spared, neither the distinction between reason and understanding in Kant's sense, nor his conception of the relation between understanding and sensibility (which Schopenhauer calls a non-entity, as indeed it is when its meaning is so utterly missed), nor the importance which he defends in the " Idea," nor the antinomy of reason in the sense which you have learnt, nor the fundamental laws of our judgment which are the foundation of the architecture of the *Kritik der Reinen Vernunft*, nor the categories, nor the distinctive part played by temporal schematism, nor the difference between Thing and Phenomenon, nor the analysis of the Ego, nor the categorical imperative—nothing, absolutely nothing : in the whole structure no stone is left standing upon another. And in spite of all, Schopenhauer in his later days expressly confesses himself to be a Kantian,¹⁶ and, as I have said before, considers himself to be the direct sequel of Kant. But it is easy to prove incontrovertibly that Schopenhauer has never grasped a single one of Kant's fundamental thoughts in Kant's sense :¹⁷ that is no matter of wonder since he never understood the critical standpoint, but took Kant's critique from a purely psychological point of view, and as an analysis of the function of the brain (in both volumes of his chief work and repeatedly in the *Parerga*) ; it would be very desirable that some one should expose the whole matter consistently, briefly and systematically.¹⁸ Indirectly even here I can bring forward the mathematically certain proof that Kant remained absolutely misunderstood by Schopenhauer. The intellectual personality of Kant is by now pretty well familiar to you ; so far then you possess a reliable touchstone ; now listen to Schopen-

hauer's judgment. It would be possible to compile out of his writings the most acrimonious pamphlet against Kant that ever was written. Of Kant's thought he says that it is unclear, uncertain, wrong, illogical, shameless, unanswerably careless, pedantic, sophistic, inconsistent, queer, simple, grotesque, full of contradictions, etc., and of single thoughts he affirms that they are "brought forward in defiance of all truth," surreptitiously obtained, mere plays upon words, monstrous mongrels, and so forth *ad infinitum*. To all of which Schopenhauer adds the assurance that it is "all the respect which is otherwise due to Kant" which restrains him "from expressing himself in hard terms"! The reproach which he oftenest brings against Kant, the thinker, is that of a "lack of adequate consideration,"—once he goes so far as to talk of "an incredible lack of consideration."¹⁹ To talk of Immanuel Kant and a lack of consideration in the same breath is too amusing! and that is the reproach of a man who before he was thirty years old had fixed and made an end of his own philosophy, and never advanced a step further, addressed to another man who was nearly sixty before he looked upon his system of thought as sufficiently ripe for him to hand over for publication the first of his fundamental writings. "It is marvellous," Schopenhauer writes, "how Kant without further consideration, follows his own way, striving after his symmetry, ordering everything according to it, without ever taking any one of the subjects in itself into consideration." We may judge Kant's philosophy as we will, we may reject it as a failure, but every man who has any knowledge of his writings and his life will nevertheless admit that this assertion of Schopenhauer's is simply grotesque: the only thing that is marvellous here is the infatuation, almost amounting to blindness, and the superficiality of Schopenhauer. But he outdoes himself when, in a rising scale of calumny, he accuses Kant of moral cowardice, of

lying, of deserting his colours. You yourselves, though you have not yet gone into the theoretical teaching of Kant, are in a position to pronounce judgment with absolute certainty, and maintain that Schopenhauer's conception of Kant must be false from its very foundations: for a man who can, after studying his works, arrive at such a ridiculous caricature of his personality, can certainly not have rightly understood those works. As a matter of fact all the inconsistencies, the contradictions, the absurdities, and, indeed, the dishonesties into which in Schopenhauer's opinion Kant involves himself, are nothing but the inevitable consequences of his own stiff-necked misunderstanding. And then the question arises, how was it possible that such a brilliantly gifted thinker as Schopenhauer, who delighted in being called "the keenest of the keen," could fall into such unholy error?²⁰ Truly one-sidedness and a passionate nature played many another trick upon this man, worthy as he was of admiration, but they afford no adequate explanation here. Kant was the subject of his study during his whole life, and yet he so utterly misunderstood both his work and his personality: how was that possible? I answer only because he held himself to be justified in everywhere separating the form of Kant's thinking from the thought itself, because he held Kant's system of architectonics to be an idle adjunct, an old crone, a mere seducer and destroyer.

Judgments like those of Schopenhauer, more politely and less cleverly expressed, will meet your ears from the most different philosophical camps. Almost every professor will tell you that "Kant's form, Kant's system are secondary considerations; do not grow grey over the distinction between pure reason and practical reason, with the power of judgment as the 'third,'—over the table of categories, and schematism and the Thing in itself, and the transcendental ideas and the autonomy of

the moral personality, and the rest of it ; all this is mere pedantry which may be explained historically : they are no longer of any value in these days, we men of the twentieth century have gone far beyond all that : keep to the great, new world-moving thoughts ; the rest is scrap iron." As against this I tell you that unless you are prepared lovingly to grasp the architectonics of Kant's thinking you will never know what Kant thought. To talk of growing above Kant is like talking of growing superior to Homer, Leonardo, Plato ; we may thank God if by honest work we gain the power of merely understanding such men, and of enriching our poverty-stricken public-school and high-school wisdom with the glorious thought-life of the heroes. Right is on the side of the man with the strong fist : with improved lyddite bombs and such weapons we may rise superior to him : but the man with the strong head is a cosmic phenomenon just like the Sun or the Dogstar ; he is HE ; taken as a personality he is neither right nor wrong : if we wish to understand him, we look upon him face to face as something that is, not as something which is yet to be ; he is eternal : whether he will be of service to us or not, time will show : but the historic plague of our days snatches him away, and we have hardly had leisure even to have a glimpse of him as he really was.

In what I am telling you and in what I wish to impress upon you I am swimming against the stream, almost alone : but that does not matter : you can trust me, I know that I am right ; stronger men than myself will sooner or later assure the victory to truth. It is true that I am no professional philosopher, but I possess instead of that the great advantage of having busied myself with Kant all my life, without making any other call upon him than that he should help me to build up my own personal view of the world. I neither chose, like our private tutors, as a half-fledged boy of twenty-

five, to lecture as best I might upon the ripe teaching of the man of sixty, in that way blocking my understanding for ever, nor would I meet him with a system of my own, the justification of which I should have had to make good by attacks upon his : there was no need for me to bind myself to any party : I did not require to inveigh against what I did not understand, nor to make myself the representative of what my own thought was unable to receive. There are in Kant things that to this day I do not understand ; but since I am still removed by ten years from the age at which Kant wrote the *Reine Vernunft*, and twenty from that at which he wrote the *Urteilskraft* ; and since ever and again the oftener I read those wonderful books, and the more I reflect upon this philosophy, new lights suddenly blaze up before me, I hope, if I live, gradually to arrive nearer to an understanding of them. For entire success I must not hope : I know it ; I am not sufficiently gifted in the matter of abstraction, and besides that I am so different from the great Kant by æsthetic tendencies and impulses of will that inevitably much must remain unattainable by me. On the basis then of the experience which I have gained I can affirm as my slowly won and ever more strongly fixed conviction, that neither the one thought, nor the many thoughts of Kant can be understood if we disintegrate them from the architectonic scheme in which he set them, —if we try to tear them from the scheme in which he gave them form and many-sided relations. The schematism of the Kantian philosophy is as it were an expanded language ; it is the visible and at the same time precise interpretation of thoughts, which in no other way could attain expression : and that is why we may maintain, with only unimportant limitations, that in Kant form is thought.

This also I pledge myself to confirm without impinging upon technicalities which have no right to any place in these lectures.

One thing in the first place: I attach more value to Kant's own testimony than the professors do. For in such matters there is no question of learning, and still less of the vote of the majority; it is only a matter of insight and judgment: in both respects Kant soared above all the men who since his time have taken up their parable upon philosophy. Since Kant, moreover, in contradistinction to Schopenhauer, was a pattern of modesty and reflection and prudent reserve, it is unquestionably significant when he repeats again and again that he has much to add to his exposition and excuses himself if in order "to bring the whole into existence" some parts "have been left in a certain unfinished state"—if, however, in spite of that, in speaking of his system as a whole, he is convinced that it will be maintained unchanged later on.²¹ In 1787 he writes to Reinhold, "I may well assure you, without laying myself open to the charge of self-sufficiency, that the longer I pursue my course the less anxious I am lest any contradiction, or even any coalition, such as we commonly see nowadays, should do any important damage to my system. This is an inmost conviction, which grows in me from the fact that when I proceed to other undertakings, I not only find my system always consistent with itself, but, moreover, when from time to time I am puzzled as to the method of investigating a subject, I only have to look back upon that general description of the elements of recognition and of the incident powers of the mind, in order to arrive at lights of which I was not aware" (Br. I, 488). When Kant wrote those words he was standing on the highest pinnacle of his powers: the *Prolegomena* had been in circulation for several years, the second and partly altered edition of the *Reine Vernunft* had appeared at the beginning of the year, the *Kritik der Praktischen Vernunft* had been finished in manuscript six months earlier, and as he announces in this letter he had begun to work at the

Kritik der Urteilskraft.²² And this is the moment at which the thinker himself gives us his testimony as to the exact reciprocity which his whole thinking bears to the architectonic form of his philosophy! And yet even this surely weighty judgment must not be taken as authoritative; Kant might have been in this relation the victim of a mistake, of an auto-suggestion: we should not expect it of him, but it might be. For this reason I will now bring forward the positive arguments which must determine us to accept Kant's judgment. To the two recognitions which we already possess of Kant as constructor and as artist in schemes, the opportunity will now occur for adding more than one supplementary recognition.

In the first place, we must mention certain strongly marked characteristics of the individual with which we are already partially acquainted.

It was purely visible problems for which logically there is no corresponding expression that, in the first instance, led Kant, the mathematician and physicist, to investigations in the criticism of recognitions. I have already mentioned the fact that one of his earliest writings which touch upon the domain of the criticism of recognition is devoted to the question of the first principle of the difference of regions in space. That is highly characteristic; you see how the visible, the element of all construction, takes the lead. What are the relations between right and left? In this question is rooted the life-work of Kant. The question would never even occur to the pure logician: to him right and left are identical; only the man who starts from pure perception, and from that point searches for the connection with pure understanding, discovers that here there is indeed a problem, and one which cannot be solved by empirical methods. That is how this apparently very simple question leads a Kant into the depths of the criticism of recognition, and

here he immediately shows up the empirical acceptation that the conception space arises out of the experience of matter as being once for all impossible and senseless. Five years earlier we already see Kant following similar ways : the work of the year 1763 entitled, " an attempt to introduce the conception of Negative Magnitudes into the science of the world," is one of the most instructive which we possess for the study of the intellectual personality of Kant. Here the thinker still lives wholly in the conceptions of mathematics and physics ; in this very work there are remarkable hints as to the essence of electricity as a motive form of the æther, and here for the first time Kant defines the impenetrability of bodies as " negative attraction." But he has another aim in view, and this other aim is the introduction into the consideration of philosophy of those problems which arise out of the nature of our perception by the senses, whereas they remain hidden to abstract logic, and indeed remain so hidden without the logician's being conscious of it, because he is lacking in the organ necessary for the purpose. " Right and Left " was one example, the conception of negative magnitudes is another. The formula $+a$ and $-a$, directly set over against one another, looked upon from a purely logical point of view mean that of the same thing I say at the same time, yes and no. The result is a contradiction,—a non-sense. I might as well have said nothing. For the physicist and the mathematician the matter is quite different. *Plus* and *minus* are for him the one as positive as the other : the principle of this is the perception of space : *plus* is motion in one direction, *minus* is motion in the opposite direction ; if, however, we are dealing with mere numbers, that is to say, with space-lacking mathematics, motion ceases to exist in practice, though it continues to exist figuratively, that is to say, in my thought,²³ and in calculation all *minus* signs are added up just like the *plus* signs, because

they belong to the same direction of motion, and it is a simple matter of convention which of the two complexes of magnitude I choose to indicate with *plus* and which with *minus*. If a body remains entirely without movement because four horses are pulling it to the right and four equally powerful horses are pulling it to the left, then, from a purely logical point of view there is nothing more to be said about its motional condition than that the body is at rest; physically, on the other hand, its motion is equally null, but the \circ does not here signify the nothing of contradiction, but rest as a consequence, a result, the practical sum of two opposite movements. This trivial example will suffice to show you what is the question at issue. Here is no question of rendering an abstract recognition familiar by demonstration, but the reverse: The perception and that which is annexed to it, —as the interplay between scheme and symbol, which the third lecture exhibited as the essence of mathematics,— must first reveal the problems and guide reason on the road to thinking. So in Kant it is everywhere that the constructor leads the way: it is out of perception that the problems of the criticism of recognition arise. And just as elsewhere in the case of right and left, so here he is led by the distinction of directions, that is to say, of real in contradistinction to logical contrasts, to the most profound ethical and critical thoughts: it is in this essay on “negative magnitudes” that, so far as I know, a hint of the categorical imperative crops up for the first time; in this essay the system of the pure conceptions of the understanding (categories) is clearly proclaimed. Both are shown as the direct result of thinking stimulated by the scheme of directions, or to speak mathematically, the contrast between positive and negative. For example, “un-virtue” according to Kant cannot be a mere negation, else it would be a nonentity; rather is it something positive and real, namely a negative virtue, a virtue

turned in an opposite direction, "not merely a lack." And here it becomes clear that virtue itself is nothing, unless it be positive and real,—a motion with a fixed direction. If, for example, a man does not carry out a good deed which it was his duty to carry out, then this neglect is not a mere zero=nothing, but it is the result of a struggle between two powers with opposite directions; the categorical command of reason was "do it"! against which the impulse of pleasure, of selfishness, etc., said, "do it not"! The direction or inaction is the result of the adding together of the various plus and minus quantities. In the same way there arises here for Kant the question of the importance of causality in our recognition. For the perfectly clear distinction between a purely logical foundation, and a real foundation, that is to say, a true cause, corresponds to the aforesaid distinction between a merely logical contrast and a real contrast shown according to the scheme of direction. If I deduce B from A that is only the more accurate displaying of the greater circle of conception A considered as already granted: this disintegration of that which is granted is the function of logic, as against which in the real original cause I deduce from the existence of A that X must also exist, although the two are not the same but different. If I say this body is at rest and therefore does not move, that is a logical deduction; in the expression a body at rest is included the notion that the body in question is not moving. But if I say this body remains motionless in suspense between the Earth and the Moon, because it is at that point where the powers of attraction of the two luminaries are exactly balanced, that is no logical deduction, but I exhibit two real and opposite motive tendencies as working causes in order by that means to account for the condition of rest. And here arises the fundamental question of the criticism of recognition which Kant raises—"How am I to understand that because some-

thing exists therefore something else exists ? ” And at once, though only two or three pages of printed matter are devoted to these reflections, he soars into the heights and enters upon the subject of God. From Anaxagoras and his *Nous* (see p. 330) to Descartes and Leibniz, thinkers had imagined that they could come to a logical conclusion about the existence of God ; whereas Kant from the simple consideration in question deduces that this is a case where a logical conclusion can only be arrived at if God and the world are identical : but if God is to be thought of as the cause of the world, then the divine will is one thing and the existing world another, and we see that the acceptance of a divine Creator explains absolutely nothing ; for we are once more faced by the question : what is the meaning of the proposition that because A exists therefore X must exist ? “ That is something that I should wish to have clearly explained to me,” says Kant.²⁴ And now he tells us in a few words that he has pondered over these relations which lie outside of logic, and which are therefore not capable of explanation in the ordinary sense of this conception, and announces his intention of giving the result of these reflections in detail : for the present he only communicates the one result, namely that we must force our way to something which lies beyond our judgment, and that can only be a question of conceptions, and then we shall find that all our recognition “ ends in simple and insoluble conceptions of the variegated groundwork of reality.” These insoluble conceptions are what Kant later named “ pure conceptions of the understanding, or categories.”²⁵

Once more I must ask you not to be discouraged if in the course of these studies you should now and then come upon points of which you cannot at once fathom the meaning : our aim for the present is no more than to arrive at a certain general recognition of the personality.

Whoever will compare these two little treatises on Right and Left and Negative Magnitudes, and will consider them attentively, will see in them the programme of the Kantian critique of recognition sketched out in tolerably clear outlines : but above all he will see laid out before him the way which Kant, the thinker, followed.²⁶ It is the way of a man who starts from perception,—from reality afforded empirically; it is the way of a man whose intellect is penetrated through and through by the strict necessity of combination, of the ever perspicuous schematisation of all mathematics and mathematical physics ; it is the way of a man who with rare keenness of sense grasped the essence of space. But in the relations of space it is form that is the important matter ; the man who here perceives form possesses, if not the whole recognition which it includes, for it is inexhaustible,—at any rate all the elements requisite for recognition. This standpoint was in Kant the result of instinct and of schooling : it was the characteristic of genius magnified by method. And you must not fail to observe that this way is peculiar to Kant alone among all the philosophers. Descartes and Leibniz alone show any analogy to it. But Descartes does not dwell for long upon the investigation of recognition ; he is more inclined to arrive at a hasty and arbitrary compromise with it, in order then to devote himself as undividedly as possible to the cosmic, physical, and physiological problems, whereas Kant starting from cosmology and physics which in the meantime had both grown into powerful systems, soon arrives at the problem of our recognition to which from that time forth he dedicates all his strength. And in regard to Leibniz, he is the abstract mathematician as opposed to the physicist, and that is a mighty distinction ; Leibniz belongs to those mathematicians who, if I may refer to what I urged in the Descartes lecture, view everything from the side of the understanding, and at the same

time attach as little value as possible to the perception of the senses as a subordinate element. Thus, for example, the "principle of the indistinguishable" forms a pillar of Leibniz's philosophy: two circles which are like to one another in every respect, are, to the man who takes the world into consideration, logically not two circles but a repetition of one and the same circle; the same holds good of all things that are equal; hence it is deduced, that it is impossible that two equal beings should exist in nature, and this deduction again serves as a main pillar of support for the monist doctrine,—a philosophy of which the imperishable value consists in the fact that it gives a pure reflection of the cosmic picture of the abstract mathematician. But here Kant, plain and always starting from experience, steps forth and cries, Halt! that is all abstraction and could only have any value if mankind were purely beings of understanding; but the senses possess the same dignity as the understanding; it is the senses that give us space; and entities which can be comprehended as "undistinguishable," be they two, or two hundred, or two thousand, are at once fully distinguished from one another as soon as they are separated by space.

This remark is very important for the appreciation of Kant's intellect. For Kant is often called an "intellectualist" or a "rationalist," that is to say, a man for whom understanding apart from sensibility is the supreme court of appeal: and here you see how false and one-sided such a judgment is, and that Kant might just as fairly be accused of relying solely upon the evidence of the senses. In truth he is open to neither objection, but is an entirely objective critic of recognition. It is precisely this absolute objectivity which makes him so difficult of comprehension to all of us: every interpreter of Kant drags him over to the one side or the other.

So Kant goes forth on his lonely road fully conscious

of his solitude, as he writes in his treatise on the comprehension of the Negative Magnitudes, "usually I least understand that which all men believe that they understand with ease"; from the outset all problems present to him a special and unusual aspect. Starting from the point of cosmology and physics, it seems to him organically impossible to leave out of sight the form of perception which has been given to us—namely space; rather do all the problems of recognition arise for him out of and in perception. Space, related on the one side, as is sufficiently proved by mathematics, to the subjective understanding, is yet on the other side, as Plato calls it in the *Timæus* (52 D), "the foster-mother of all Being," the condition, the form of objective things. Here Kant gains a foothold for further investigation in both directions. That is why it is inexplicable that our professional teachers should have called the writings in which Kant examines the properties of space "pre-critical," because, as they say, his analysis had not yet made a thorough investigation of understanding. On the contrary, what we have just said shows that out of these writings we obtain a highly important, indeed conclusive, insight into the accurate judgment of Kant's intellect and of its work: it is with the critique of space that his critical work begins: this is the starting-point, just as this same criticism later on is the beginning of the perfected exposition. But another insight, hardly less important, which we gain here is the perception that geometrical instinct and mathematical schooling must make schematic construction not only into an indifferent habit, but into a fundamental method of this manner of thinking. And so in Kant we see, from the very beginning, concrete perception, the geometrically practised eye acting as guide to thoughts, so that the architectonics, the scheme of thoughts, were forced of necessity to grow together organically with the thoughts themselves, and that no

stripping of these thoughts out of the shell of their scheme is possible in the case of Kant.

But there is yet more to be said of the significance of form in Kant. The matter is far too important in regard to the exact understanding of the intellectual personality, for me to omit any of the arguments.

We have already seen why and how far we are entitled to describe Kant as a constructor as against Plato ; for if Kant is from the very outset pre-eminently a constructor of thoughts, then it is impossible for this construction to be of slight value. I will not repeat myself ; but I wish to impress upon your attention still more earnestly the architectonic side of Kant.

You remember the anecdote about Westminster Bridge in our first lecture (I, p. 38) ; since then we have often observed how characteristic of Kant's thought is all that has to deal with the architectonic art. In the *Kritik der Reinen Vernunft* he expressly makes architectonics the equal of science. It is not unity of itself, but systematic unity which " turns ordinary recognition into science," and therefore in general " architectonics are the doctrine of science in our recognition " (R.V. 860). Those of us who are only capable of seeing what is artificial in such a construction, do not recognise the resultant importance that in such architectonics refined to their utmost capability everything stands in relations of the closest interdependence to everything else ; no matter what we take into consideration in such a structure, every single detail is so closely conditioned, and has at the same time such exact conditioning power in return, that it is hopeless here and there to break up greater or smaller portions, and judge them by themselves. There may well be much that is artificial in all this : I readily believe it : but this artificiality is art, the art of Genius : here we see what Goethe calls " highest art : the magic of the sages." Wherever such operations come to the front they depend

upon incomprehensible, undefinable relations, upon things which are imponderable ; one single clumsy touch and the strength of the fabric, the " magic of the sages," is gone. We may dissect, break up, cut to pieces, pick to bits products of nature in order better to understand them :—not a work of art, for that is either a unity or it is nothing. In very truth, like iconoclastic monks, have our philosophers and professors attacked the masterpiece of the fabric of Kantian thought !

In relation to this painfully exact architectonic quality of Kant's work it is now important to be able to watch him at work, especially in the bundles of sketches for his last planned works which remained unwritten. Every single pithy thought here occurs over and over again, the sentence is turned and tested in every conceivable, sometimes hardly observable, variation,—so laboriously are the stones worked up one by one, till they fit into one another and at the same time into the general plan of the architect. Our historians of philosophy ascribe this mode of writing to Kant's advanced age and to the beginning of the failure of his intellectual powers : but that is an easy way of dealing with the analysis of personality ; for even if such an assertion partly hits the mark,—even if some features should show signs of decay, still the manner of working is none the less characteristic. If we think of the eleven years which Kant spent upon sketches for the *Kritik der Reinen Vernunft*, which he ultimately wrote in five months, and if on the other hand we consider the wondrous depth and productivity of the thoughts in these fragmentary relics, which are just beginning to be appreciated by the professors, we may readily conclude that these leaves are typical of Kant's method of work.²⁷ Far from seeing nothing but what is sickly in these working manuscripts of Kant's, I find in them a strong family likeness to the sketch-books of that other great architect, Beethoven.

Here too we find an untidy muddle and endless repetition ; for years the same apparently simple motives recur over and over again, until they have received the exact shape which corresponds to the master's sense and to the whole which hovers before his mind's eye. This fact may help to sharpen our understanding for the formal significance of Kant's working : had the man not been an artist, he would never have given himself up to this torturing work like that of Beethoven. There is no difficulty in arriving at a merely logical indisputability or a mathematically precise organisation ; however complicated the matter may be, it can be solved with the certainty of an arithmetical sum, and constructed according to rule. On the other hand, in all artistic work unity is necessary ; we learnt in the previous lecture to regard it as the essence of life ; only where this unity exists does work deserve the title of creative : here an indivisible ideal unity has to arise out of divisions, and since this unity consists of parts, it follows that the parts are not parts in the sense of pieces, but organs, and that in turn means unities ; so here you have circle within circle to all eternity. This is the ideal which hovers before the artist, —this is the necessity which forces a law upon him. You must not then in appraising the significance of form in Kant's thought simply say : here we have a thinker who takes his departure from the visible, and his method is that of the mathematically physical scheme, but you must add : he is an architect, an artistic creator, and in obedience to that he wills to produce organic and not merely logical unity.

Out of this consideration there arises another which must not be passed over without mention.

I spoke of " organic not logical unity," and as a matter of fact these are two different things : this you already know, and I need not dwell upon the proofs of it : a single example may suffice. Logically I neither may nor

can say, unity is plurality : the predicate would destroy the subject, and the sentence would be a type of absolute senselessness. *In life, on the contrary, as was shown in the previous lecture, "a unity is of necessity a plurality, and it is plurality which constitutes a unity"* (p. 105). In life, then, we are subject to another code of laws differing from the logical code : we must not call it "illogical," for that would be unintelligible ; but it embraces an incomparably wider world, a world that is more richly constituted. You must have observed this more than once to-day. Now come the purely logical schoolmen, and discover dozens of "contradictions" in Kant : if only one-tenth of the so-called "contradictions" were really "contradictions" in the true and broader sense of the word, that is to say, if one-tenth of them not only attacked the narrow rules of mere logic, but also the organic conditions of all life,—then Kant must have been a quite exceptionally stupid man, and Schopenhauer's reproach of chronic want of consideration would even be flattery ! In truth it is baseless misunderstanding upon which this is founded, and that indeed not only with reference to Kant. Let us try to arrive at some clear notions upon these matters.

We have seen that Life is Form, and Form is Unity (p. 98) : later on we learnt if the essence of Life is Form, it must of necessity follow that the deepest foundation of thinking must equally be Form (p. 188). Even the thinking of an individual must first and foremost be uniform, and it is only by extraneous circumstances that it is broken up and turned out of its course so that it seems to destroy itself. The childish doctrines of the middle of the nineteenth century, according to which thought must be looked upon as matter,²⁸ have long since been carried to their grave, amid the jeers of all scientifically competent judges ; still the fashionable idea of to-day which sees in thought a motion and there-

fore an energy, is patently no more than the repetition of the same thesis in a veiled form : it is always the same mistake of looking upon life as a result of matter and force : whereas as we have seen, life is the aboriginal and only concretely given phenomenon, while matter and force, the closer we look into them, are for ever evaporating more and more into abstractions. If, on the other hand, Life is Form, and thinking a result of form, then what we are wont to call the " Soul " is, to speak allegorically, no more than the inner side of the Form of Life. How astonished our worthy empiricists were when positive investigation proved more and more clearly not only that the weight of the brain, as they premised, but also its relative complexity, the number and the variety of its superficial folds, etc., stood in direct relation to the power of thought of the individual. And yet even to this fact no more than a symbolical value can be attached ; but it shows that the conception of thinking as a direct manifestation of form is not so senseless as it might seem to be at first sight to many a man who, shrouded in the dust-cloud of false anti-metaphysical empiricism, stalks in the great high-road of the vulgar herd. And since every phenomenon of life is fixed, and therefore necessarily bound up by the form of the essence of life into an organic unity,—in which all parts point to one another, condition one another, and together constitute a whole, therefore thinking must also form a unity, in the place of its birth, that is in the inmost soul of the personality. But in almost all men thoughts remain in suspense, and never gain a firm impression ; they are the children of form, but they do not attain form : they fall short, and do not reach the goal, like bullets missing the white, missing the black, burying themselves in the earth on the hither side of the target. Sometimes men of this sort want to carry their point arbitrarily, and are lacking in the indispensable measure

of formative power. The work of projecting, in the sense of the Latin word *projicere*, and setting up again that which lives within us, is beset by very important difficulties. The one difficulty is that of speech: words are never fully adequate to true thoughts. Cusanus, a clear thinker, warns us that *oportet supra verborum vim intellectum efferre*, the reader must lift himself above the narrow meaning of my words to a higher point of conception:²⁹ and Goethe says, "For the superior man the power of speech which has been vouchsafed to him is insufficient; . . . he falls short almost everywhere" (G. VIII, 96); that is why the handling of speech is an art; it is not every man who knows how to exercise it. But this is only the difficulty of the lower layers, the caprice of the building material: then comes the building itself, the question of architecture: even the "superior man" will only master it after many years of devoted labour, and only within certain bounds laid down by his personality. In all ordinary cases the much complained of contradictions in thinking arise simply from the fact that the personality in question had not grown up to this work of construction: it is not their thinking which fails in unity, but the expression of their thinking; it is our business to build up unity out of the chaos of matter. On the other hand, what is so extraordinary in Kant is that he succeeds in an almost perfect "projection" from within to without. In every projection there is much that is artificial even though it be according to rule: it is a combination of convention and law: besides that there belongs to it the exercised faculty to express bodily the picture which is superficial: lastly, the geometrician may often have been mistaken: even admitting that all this is to be found in Kant, there still remains the fact that in him every single thought possesses its mathematically appropriate place, and with that its appropriate function. Thoughts are not stones:

the thinker cannot raise up a great cathedral before our eyes and say—that is my scheme of philosophy : he can only give us the plan, ground-plan and elevation ; but these are a far more delicate matter than buildings of stone and mortar : a chip hurts these but little ; even out of ruins our thoughts can build up their form : but whoever touches an architectural drawing ever so little, displaces the various relations, so that the original form, the thought of the architect, can no longer be guessed at. It is in this way that Kant is radically spoilt for us : soon no one will any longer know what he was talking about. Fragments of thought of a hundred men pass current under Kant's name to-day, so that Hägerström, an expert in philosophy, complained that “ Kant's whole philosophy is represented in such a fashion that it might have had its origin not in one great thinker, but in many little ones.”³⁰

In this connection it may be opportune to insert an observation of general significance : we must in general and everywhere distinguish between contradictions and contradictions. There are contradictions which are of a purely logical nature, they result in an absurdity, a nullity, an emptiness of thought,—and there are relations which logic is apt to point to as contradictions, because they overstep its powers of conception, but which are in reality the simple affirmation of the living fact. These contradictions are necessarily found in all thinking, but appear in “ monumental ” shape in proportion to the pre-eminence of the thinker ; for it is precisely in them that organism proves itself as organism, and that means as unity. In my work upon Richard Wagner I made use of the expression “ plastic contradictions ” for this phenomenon.³¹ There is in thinking, as we have already seen, a right side and a left, and just as it is not possible to draw the left glove on to the right hand, so it is impossible to expect to find in a genuine and honest thinker

unity in anything except in the organic interdependence, in the reciprocal correspondence, in the relation of the parts to one another: Here again is the proof of Plato's saying: there is no knowledge unless in the many we see the one. And sure it is that we have not understood an intellectual personality, that is to say, personality as a thinking being, until we recognise it as being just as uniform and necessarily self-conditioned in its organisation, as it is conscious, in the midst of all inmost conflicts, of being a unity. But to reproach with contradictions a man gifted as Kant was, a man equipped as perhaps no other mortal ever 'was with all the means for the architectonic and systematic exposition of a philosophy that was supra-logical, and therefore contained all logic in itself,—devoting to this one task almost exclusively a whole life of most painfully exact, scientific work,—to bring such a charge against such a man wherever we fail to understand him off-hand, and cannot without pains see into the organic relations of his thought-work which embraces all the domains of the intellect, is not only void of understanding and childish, but above all impertinent.

We have now become acquainted with Kant the constructor as a physicist, gifted with exact perception, as a master geometrically skilled in schemes, as an architectonic builder, as a magician in art, as an organic creator. Possibly Kant may have been excelled by others in any one particular, but what constitutes his personality, and gives it such extraordinary importance, is the fusion of these various branches of the creative faculty into one unity: for the gifts which we have been unravelling are naturally only various manifestations, aspects and facets of the one uniform phenomenon. All that we have said up to the present is directed at these faculties subjectively as faculties; but if we cross over to the objective and ask, what is the relation to the

world of this intellect thus equipped? then we come to a new experience, and what we find is of decisive importance for the recognition of the peculiarity and value of the formal element in the Kantian system. Moreover, we here touch the point where the hope arises of growing into something which may go beyond what Kant achieved, for here is revealed the connection with nature.

When we watch Kant the systematiser at work objectively, it becomes necessary to distinguish between artificial systematising and natural systematising. There have been many systems in philosophy,—indeed we may say that from Thales to Schopenhauer, even down to the present day, it has been the ideal of most thinkers to set up a “system.” The Greek word “system” means originally a uniformly and arbitrarily accepted number of persons or things, for instance, a college of priests or a body of troops; by degrees it came to have a theoretical sense, and so betokened the unity of a doctrine composed of more or less numerous theses; but the arbitrary and conventional sense which it bore in the first instance was attached and remains attached to the second signification. By “system” our thoughts in the first instance turn to the autocracy of an intellect which forces things to assume whatever shape or position suits it; it seems to be the opposite to nature. And now as regards philosophy! If anywhere we see arbitrary will at work it is here; here assumption is set against assumption, and nowhere do we see the trace of a strictly straight procedure such as, in spite of all conflict of opinions, is shown in the other sciences. In the Bruno lecture we spoke in detail of this philosophical system-mongering. Aristotle, who asks the stars how many heavenly spheres there are, in order to deduce the number of substances which exist in the world, the number of the creative intellectual powers, the number of aims, is the pattern

of the systematiser: a second extreme example is furnished by Spinoza, who builds up a whole philosophical system "after the manner of geometry" with definitions, axioms, corollaries, etc., which naturally has all the appearance of consistency, just as consistent as Euclid's elements, but where there is this one oversight, that all mathematical definitions are without exception merely verbal explanations, but that these words always premise the perception by the senses of the relations, and refer to it, whereas all Spinoza's definitions relate to things which are incapable of being perceived, and are therefore *more geometrico* worthless.³² What must specially strike us in this connection is the circumstance that Plato, the great and true man, left behind him no philosophical system, not even the rudiments of a system, indeed that he scoffs at all the systems together (see p. 494), and further that Kant in the same way never wearies of warning us against the "systems of the idle reason," as he calls them: he who otherwise took but little notice of other philosophers, does battle energetically with the systems of Descartes, Spinoza, Berkeley, Leibniz, Wolff, which were held in esteem in his day. In a certain sense, therefore, critical philosophy must be a radical opponent of all system. This it is that Schiller extols as the "intolerance" of the Kantian philosophy: "This does it honour in my eyes, for it proves how little it can tolerate arbitrariness."³³ And, nevertheless, Kant himself tells us in his *Kritik der Reinen Vernunft*, that he is "striving after a complete system of transcendental philosophy," and at the end of his life he energetically repudiates Fichte's assertion that he (Kant) had only aimed at giving us "a preparation, not a system," convinced as he was that he had given "the completed whole," and that "the system of criticism rests upon a fully assured foundation, established for all time." No system then, and yet a system. What are we to understand by that?

One word suffices to explain : Kant here understands by system "natural system," precisely in the sense of our modern natural science, and in exact contradiction to all former, and yet to be born, artificial systems of the idle reason.

In the sciences of life we do not in these days understand by "system" the attempt to produce an artificial order out of practical and convenient considerations,—nor a logical or mathematical order such as man in his wisdom thinks would be fitting : still less do we think to create order based on arbitrary acceptations : what we aim at is an attempt to follow up the trail of nature, to fix as exactly as possible the relations between its phenomena, secret as these may be,—in short, to reveal its true organism, that is to say, the necessary connection which dominates it—the unity of its plurality. Upon this subject I have expressed myself in detail, based upon a rich empirical stock of examples, in my *Foundations of the Nineteenth Century* (p. 789 seq.), and I need not repeat myself : laboriously precise, exactly obedient observation of nature, united to a bold, creative power of construction,—those are the two gifts which we find at work together in our great biological systematists. If a man is to render services in the domain of natural systematics it is indispensable that he should be endowed with aptitudes nearly allied to artistic receptivity, failing which he cannot see form in nature; and equally indispensable is it that he should be possessed of a rare creative power, without which that which he sees and divines is not projected outwards as a form such as is humanly recognisable. In all natural systematics, therefore, we have to deal with something extraordinarily delicate, with "a hidden art in the depths of the human soul," as in all productive schematising (R.V. 180) ; once it is discovered, system can be made use of even by average intellects, and indeed built up in

detail ; nature herself then leads us further ; but the *founders of systems have always been brains of the very first rank*. That plastic contradiction, of which I spoke a while ago, must be most powerfully developed in the intellect of a systematist, and must penetrate the whole mind : for the systematist must at the same time discover and invent, obey and command, receive and generate ; to use a coarse image he must stand on the dividing line between man and woman. You must not overlook the fact that we can never reach further than symbolism, even though it should be an exact symbolism. Goethe's saying is universally known, "natural system, a contradictory expression ; nature has no system" ;³⁴ yet system is to us men the tool of the understanding : that constitutes its incomparable importance. By means of the telescope we see the boundless distance, with the help of the microscope we see the infinitely little : thanks to system we obtain an insight into certain relations of nature which are incommensurable to our brain. For the widening of the physical sense a physical instrument suffices,—for the widening of the horizon of our thoughts and the sharpening of our perception nothing short of the invention of a special method of seeing and thinking is of any avail : this method is the natural system. Naturally you must not look upon the word system merely in the sense of an agglomeration of animals and plants : system rather penetrates every science of life : a Bichat who reduces the whole network of the body to a system,³⁵—a Wilson who arranges systematically the innumerable phenomena of cell-life, a Mendelejew who establishes the "periodic system" of the chemical elements, a Haüy who reduces the forms of crystals to a system. . . . All these men render just as great service to science as a Cuvier, who draws the fundamental lines of a system of animal forms. If you observe carefully you will discover that everywhere, at all stages in the natural sciences there is

constant systematisation. In all the branches of investigation system means law, and that means the specially scientific : it is science itself ; for science implies " knowledge shaped into form," and system only signifies a shadowing of this conception,—that is to say the form of our shaped knowledge,—form therefore considered as apart from its contents,—symbolical form under which as method we amass and order our knowledge. Every day we see more clearly in the unorganic sciences that our human conceptions are mere tokens ; taken materially and pursued further consistently, they lead to a non-sense ; we have dwelt upon that more than once in these lectures : in the organic sciences this fact is only masked because we are there in a position to push back every problem further and further in our thoughts. The modern doctrine of development, is, considered morally, the condition of fundamental timidity of thinking : a poor-spirited generation is afraid to look eternity in the face. Yet every system of nature stands apart from time as the symbol of imperishable laws.

If Kant then wishes to replace speculative philosophy by a philosophy as science, " a quite new science," as he says, " of which no one had previously even grasped the thought, of which the very idea was unknown " (P. preface)—he takes for his axiom that all science first arises by construction, and that form, the architectonic form, can never be a matter of secondary importance in true science, since it is by its means that science becomes science. It is small wonder then if he tells us of his own science of reason that " the original idea is architectonic " (R.V. 875), and if he declares, as a consequence of this method, that it revealed " the articulation of reason " and its organic unity. That is evidently the exact and detailed programme of every natural system of the exact science of nature : unity under an architectonic idea,—not under a humanly accidental, plausible, convenient,

ingenious idea, but under the idea which rules in nature, discovered by means of that creative imitative process which reaches the highest possible measure of exactitude.

This distinction between the two conceptions of system is a mighty one; it is known to every investigator of nature, and consequently also to Kant; but whilst in the biological sciences we have abandoned the scholastic systems for nearly two centuries, recognising them indeed as useless toys, which lock out every possibility of progress in knowledge,—so far as philosophy is concerned we are still under the thralldom of scholasticism. Here it is still the artificial instead of the natural systems which rule. We still busy ourselves with Spinoza's "geometrical principles," Hegel's "absolute knowledge," Schopenhauer's "immanent dogmatism," and we either close our ears to Kant's teaching or give it a scholastic turn. Kant teaches us that our reason is like every living thing a perfect "organisation"; it contains "a true structure of component members, in which everything is organ, namely, the whole existing for the sake of the part, and each part for the sake of the whole"—he says "the value and use of every part depends upon the relation in which it stands with regard to the others in reason itself, and as in the structure of the members of an organised body, the purpose of every member can only be gathered from the perfect conception of the whole" (P. xix *seq.*, R.V. 86r *seq.*); and he accordingly considers the task of philosophy as existing not in the more or less brilliant, logically impeccable interpretations of the world, but in the pursuit of "a method imitating the investigator of nature," that is to say, in the revelation and creation of a natural system of reason. He lived under the conviction that he had discovered this system, that is to say, that he had built it up architecturally. He expressly acknowledges that "in his exegesis there yet remains much to be done," for it is "not full of light;" he often blames

himself in respect of "clearness of argument," "want of elegance," and so forth, and in later years, after the completion of all his "critiques" he expresses the longing wish "in the interest of the communication of his principles," that he could meet with a "poetic brain dominated by a mode of exposition corresponding to the pure conceptions of reason," a man "who could combine scholastic precision in the valuation of conceptions with the popularity of a glowing imagination" (*Letters*, II, 417). He sets no exaggerated estimate upon himself, knowing full well what are the limits of his powers, not imagining that "like Hume he is master of all the art of beautifying" (Ref. II, 7). But, on the other hand, he is firmly assured that his system is right, and must assert itself lastingly. Here, as a true investigator of nature, he leans upon "experiment." No natural system can be shown to be right logically, it must prove itself by experience; once the combining idea of an organism of nature is approximately understood, it shows itself in every place, in every corner: every investigator of nature knows what I mean: man becomes as it were the confidant of the superhuman.³⁶ But philosophy is no more than any other science "given *in concreto*," it is rather like all the others "a mere idea of a possible science," to which "we seek to draw near," and this attempt succeeds in reaching the goal in proportion as "we are able within the possibilities of humanity to make the copy 'like the original'" (R.V. 866). Experimental practice alone, not argument, can show whether this agreement takes place or not; and it is upon this evidence that Kant relies when he reckons himself to be the discoverer of the true natural system of reason. Hear what he says: "this method copied from the investigator of nature consists in this: searching for the elements of pure reason in that which may be confirmed or disproved by an experiment." In what then does experiment

consist here as in all other systems? Only in the investigation whether the members prove themselves to be organic (p. 105), whether every part stands in the necessary relationship to the whole, and to all other parts. That leads Kant to write further, "It is no self-conceit which entitles me to this belief, but only the evidence furnished by the experiment of uniformity of result in the process from the smallest elements to the whole in pure reason, and conversely from the whole to every part,—which also is ultimately shown in practice,—while the attempt to effect any change even in the smallest part at once brings up contradictions not only of the system, but of human reason in general" (R.V. xxxviii), and a few lines further on he writes modestly, "there is no danger of being contradicted here, though there may be danger of being misunderstood."

You now know exactly what gifts Kant possessed as constructor, as well as the value which he set upon the construction of his system of philosophy. You will never understand Kant's life-work unless you have before all recognised, 1stly, that he was a constructor; 2ndly, that his general aim was the introduction into philosophy of genuine natural science in the place of scholasticism; 3rdly, that to him science meant architectonic system; 4thly, that his more immediate aim accordingly consisted in the revelation of the natural organism of reason; 5thly, that he held the opinion that the organism of nature could only be fathomed by a process of copying, that is to say by natural schematisation; 6thly, that consequently the form, the schematism of his thinking, that is to say his "system," was in his view the most necessary and difficult task, and at the same time the greatest and most lasting service that he rendered.

One protest I must as briefly as possible introduce in conclusion.

We have Kant's own authority for saying that he did not look upon his own method of exegesis as the only one possible. Inasmuch as according to the critical philosophy of Plato and Kant inter-relations are a fundamental consideration in all experience, it follows that the possibility of different points of view is at once admitted. Even in zoology and botany it would be refreshing if every presentment of form did not so quickly freeze into rigidity, but if the symbolism of the so-called natural systems were allowed to make experiments in various shapes; yet hardly has some creative brain succeeded in giving us a representation of nature than it at once becomes a dogma, and no further modification is permitted; once, however, the dogma is taken historically, as is the case in the phase of thought by which we are oppressed at present, then all informing creative power has received its death-blow. Kant was far removed from this. In the last paragraph but one of his *Prolegomena*, he writes, "it is not my intention to incite any one to a mere following of my opinions." What in general biology is a misuse of jejune everyday brains, would be a real sin in relation to the living centre of our personality. To quote the teacher in his earlier years when he was starting upon his philosophical lectures,³⁷ "the youngster thinks that he is going to learn philosophy, which is impossible, for he must first learn to philosophise;" and in the *Kritik der Reinen Vernunft*, he repeats, "we cannot learn philosophy, unless it be historically, but only at most, so far as reason is concerned, to philosophise" (p. 865). Here is the true spirit of toleration, and we must not overlook the delightful irony of the words "at most." But in order to grasp the significance of the expression, "not philosophy but to philosophise," in its exact meaning, we must supplement it by the inversion of the greatest genius among all Kant's pupils. Schiller writes, "only philosophy can make philosophising harm-

less "88 (Letter to Goethe, 9.9.1796). We now know the meaning of this formula. Critical philosophy formed upon the pattern of true natural science does not rob us of the freedom of personal expression, but it gives the *coup de grâce* to all arbitrary philosophising and to the artificial system-mongering of the schoolmen, and it alone possesses that power.

Our subjective and objective consideration of the significance of form in Kant's method of thinking, has led us to clear results. It would be attractive now to investigate this form itself more closely ; but this would be to speculate upon the work itself, and that is outside of our purview. And so I set before myself another goal. I stand firmly by the importance of form in Kant, as the fundamental theme of this lecture. But this appreciation is perhaps the only one, certainly by far the most important one with which I, as guide, am able to furnish you. What might still remain for us to do would be to dive into the purely personal aspect of form, and that is what, in the broadest sense of the word, deserves to be called " style " : not an examination of the linguistic and grammatical peculiarities, but of the style of thought. All that I have dwelt upon so far has its value in this connection ; but there is further something inexpressible, the most delicate, the last ; it is hardly to be demonstrated, and yet it may perhaps be indicated in such a fashion as to make it visible to those who have as yet given it no attention. " Style," says a master among critics, Walter Pater, " is that quality in a work in which no other man or age could have done it, as it could never, for all our trying, be done again." Truly if we could win our way to an insight into the style of Kant's thinking we should have penetrated into the very depths of his personality.

With this intent we must in the first place enter upon the more general results of our analysis.

What Kant wished for was science instead of speculation ; science is organic architectonics : architectonics are a faithful copying of nature within the relations and the possibilities of the human intellect ; this chain of thought should lead us to the firm conviction that what Kant aimed at was a natural system as form-giver to his thoughts. Now every natural system possesses fixed peculiarities which we may call stylistic : in the born investigator of nature they are cause as well as effect ; without this faculty he could never arrive at a true contact with nature ; without being intimately and persistently in touch with nature his intellect would never strike a line so essentially out of the common. The man who cribs, cabins and confines himself within that which is the common lot, has no difficulty in arriving at harmony and seclusion,—while, on the other hand, the man who aims at making nature speak, starts by renouncing all perfection, which it is impossible ever consistently to attain : it will be impossible to avoid characteristic deformities ; side by side with revelations of the superhuman, the obstinacy of human nature which cannot altogether be circumvented, behaves in an intolerably hard manner, and gives occasion to persistent transformations. An artificial system means contemplation frozen into immobility ; a natural system is motion in the direction of truth : when Kant, the preacher of natural system, defines philosophy, he says : “ Philosophy is for man a striving after that truth which always remains imperfect ” (Üg. III, 313). The one is possession, the other is fighting for possession. It is manifest that this exceptional character is bound to force the style of its thought into every detail of the composition of its sentences : it explains much that so entirely distinguishes Kant from other philosophers. A second observation attaches to this first one almost as part and parcel of it. All natural systematics are rich in startling sur-

prises ; the calculation never proceeds smoothly to the end ; the symmetry is always stiffer than the man of taste would have expected : still some lines of separation become fused, while others are beyond measure sharp ; parts which should rank as corresponding, are very often of by no means corresponding value ; and besides there are never lacking certain doubtful, glittering, ambiguous, vagabond, elements, with which we cannot dispense as elements, and which we yet do not know how to bring into subjection ; only think of the systematics of animal and vegetable life. Let me cite an example which is of common knowledge : how marvellously simple is the division of all flowering plants into Monocotyledons and Dicotyledons : but in these the gymnosperms (conifers, etc.), hover between the two, and every botanist takes a different view of their relationship. Another example : however brilliantly clear the division into phanerogams (flowering plants) and cryptogams (flowerless plants) may be, so that we may take it as just as intelligible as that between poetry and the prose which gave the Bourgeois Gentilhomme such moments of pride,—the man who goes deeper than that immortal Philistine, will see to his amazement that it is precisely in the most highly organised of the flowering plants that, looked at from the standpoint of reproduction and the alternation of generation, the homologies with the structural relations of the cryptogams are so strikingly manifest : precisely those things which we imagined to be quite distant, quite different, are especially approximate. It is thus that in every natural system the illogical is for ever breaking out afresh : if you are looking for unity you will find that clearly distinct groups are struggling to break loose from one another : if you desire a final separation, they obstinately hurry back together into unity. These are all things that could never occur in an artificial system : they overstep all mere logical thinking, just as

every perception is impossible of being thought out : on the other hand, you will find much of the same sort in Kant. Take, for instance, the ambiguous position of time : looked at from the standpoint of the perception of the senses, time is a "second" conception alongside of space : looked at from the standpoint of the understanding it is a "third" conception, that is to say, a scheme for the combination of conception and perception. There are certain men, graduates forsooth in all degrees,—men of niggardly brains, who hold all these things to be contradictions, thanking Heaven that there is no possibility of anything of the sort occurring in them ; as a matter of fact it is simply a case of natural systematisation ; it is an attempt at truth ; it is genius formed upon the pattern of nature. Of such a nature are the contacts of distant poles : freedom and nature must be, according to Kant's system in contrast, and yet, within the frame of that system, neither can be understood, unless the other be presupposed. Kant is a great thinker, but I look upon his system as greater than himself : in a genuine natural system that is always the case.

One of the countless wonderful sayings of Goethe about nature fits much of what we have to bear in mind here into a short formula,—“ everything is simpler than we can think it, and at the same time more complicated than we can have any idea of.” In this sentence, is portrayed everything that is natural system, and with it, at the same time, the style of Kant's thinking and constructing. If in our schools we were made acquainted with nature instead of with all the fads with which our intellect is deformed and turned away from nature, then every man would know to-day what Goethe alone knows and cries to the wilderness : our thinking is not simple enough to grasp the great relations : these are “ simpler than we can think them.” To be brought up to that

which is simple; that would be the worthiest of all pedagogic programmes that ever were drawn up. To master it, and as a guiding clue to it, the art of genius needs to be called in: we can imitate anything in genius more easily than its simplicity. Beethoven's art of dissecting themes into fractions, or of building them up out of fragments, founded a school in music, but the childlike, simple melody of the *Lied an die Freude* has never met with a parallel: every conductor is master of Wagner's technique of instrumentation, but the invention of motives out of the tones of the simple triad, which now are established for all eternity, is something which no other man has succeeded in effecting. And it is this same simplicity which in the most grandiose form comes to light in Kant. We have seen it at the beginning of this lecture; witness the scheme tabulated at p. 176; but indeed you must have perceived it in each one of our lectures. For in fact the simplicity of the general disposition, which at first seems to estrange us, is repeated in the whole body of the system. The chief, and for many of us the most unconquerable, difficulty of Kant's thinking, lies in the fact that "it is simpler than we can think": we cannot attain to such simplicity of thought; the incentive to it is utterly beyond us. The work of almost all commentators consists in the subtilisation, the complication and the refining of what Kant thought quite simply, quite honestly, and quite directly. All those fundamental conceptions of Kant's system of which we hear so much, and which act as so many bugbears—the ideality of space—the Thing in itself—the table of categories,—the intelligible freedom—the categorical imperative, etc., are certainly the result of a very deep power of thinking, and so far not easy to follow in our own thought, but they are not abstruse, impenetrable, dædalic, but far rather just as grandly simple as the nature by which we are surrounded. Kant looks upon

simplicity as the mate of true wisdom (p. 176), but it is no easy matter to possess simplicity ; it is far more easy to become a mountebank of thought : greatness belongs to simplicity : the saying " unless ye be like little children " does not apply to the Kingdom of Heaven alone, but to the kingdom of all that is intellectually great.

This simplicity is perhaps the most important peculiarity of the Kantian " style of thinking," and at the same time the most difficult to estimate. Let no one, however, say that if his thought be simple his language is complicated beyond comprehension ; that would be petty and full of misunderstanding : for even from a literary point of view the first test of style is not so much the detail of the language as the impression conveyed. Language may in a certain measure be twisted or influenced by imitation, whereas architectonics cannot be learnt, least of all the architectonics which embrace a whole life, and hold it up to exhibition almost as a work of art. Kant's critical life-work, looked at as a whole, is of majestic simplicity in its disposition : the three critiques, the first of Nature, the second of freedom, the third devoted to the power of judgment, without which there can exist no unity (see p. 162), and surrounding them the supplementary elucidations.³⁹ If we add to these the works of Kant's youth, we obtain the impression of a perfect circle, narrow at first, and then gradually broadening symmetrically. Again the arrangement of each single book is extraordinarily simple and perspicuous,—so simple and perspicuous that we are apt to smile at the so-called " schematic " nature of it, without noticing how exactly this scheme is foreshadowed in the general disposition of the new science. And so it goes on further down to the sub-division of parts. In the last instance the simplicity reveals itself in the single words. In Kant the word becomes altogether form ; he gradually strips it of all phrase-mongering : practical reason and

theoretical reason, the "thing and the phenomenon, freedom and nature,"⁴⁰ science and religion, duty and inclination, dignity and merit—all these words are endowed by Kant with an inimaginable wealth of connection by means of the systematic relation into which he has brought them, while at the same time they are indissolubly chained together, each reflecting meaning and elucidation upon all the others. In that way they operate as symbols; and it is not until this point is reached, that the words assume an import of their own. Perhaps there is nothing so difficult for the writer as to give full value of meaning, life, and movement to words. There are not a few men who are masters of the sentence, and thus of what is called eloquence; yet it seems to me that "the highest art, the magic of the sages" is needed to endow the word with soul, to transform the common, universally current coin, and so to change it in such force that like Plato's Idea and Hypothesis it shall henceforth bear the stamp of the one man, signifying the thought that up to then had never been thought,—the imperishable gift of the one man, living on, even after his work has gone under, and his very name is lost in oblivion. If system, as Kant conceives it, is a struggle for wisdom, then that struggle must also affect the words which here—where we are dealing with thoughts,—embody the soul of the system. In Kant, exactly as in Plato, many a word has in its conception an expansible circumference while its centre remains immovable; it is something like the Iris of our Eye which widens and contracts under the influence of light—take, for example, "Nature" and "Thing"; but in other cases the meaning shifts like the tones of a scale in which the octave repeats exactly the same note though higher or lower, while in between, other notes, organically connected with the first and last, strike the ear, so that the word denotes rather a whole gamut of notes than any one single tone—that is the case

in "sensibility" "experience," etc.⁴¹ Here the word lives and searches and feels; it is an organ, not, like the scholastic conceptions, a tool: for that very reason the danger of vagueness was all the greater: the genial power of perception, the much ridiculed artistic architectonics, were needed to give clear form in spite of all; it succeeded, and to-day we see Kant's nomenclature forcing itself even upon all those who otherwise know nothing, and understand nothing, about the thinker. A specialist has told us that Kant linguistically worked in so revolutionary, and at the same time so definitive a manner, that "all that had gone before must be held to be out of date"⁴² (*Eucken*, see p. 20); to that we are justified in adding, all that has followed after. Over and over again Kant's single expressions have been fought over; upon "the Thing in itself" alone a whole library has been written: here the giant holds the Liliputians in the hollow of his hand; the last element of the system, the word that supports the whole, the most simple of all proves itself to be unconquerable.

Goethe's saying, however, has a second half. He does not only say everything "is simpler than we can think," but he adds, "is at the same time more complicated than we can conceive." It is necessary to pay close attention to the delicacy of the shading in the wording of the expression. "Complicated" is here the opposite of "simple." Goethe, however, holds fast to his conception: he is rather minded to use it for building the bridge which leads from the one world to the other, and so he rightly makes the discovery that in nature the contrast corresponding to limited and unlimited is that of "simple" and "complicated." Simplicity we find everywhere in nature;⁴³ at the same time all things are interwoven to such an extent, and indeed in the wider sense of the "complex," that is to say, of the reciprocal in-reaching of the one into the other, of the reciprocal

conditioning and being conditioned,—that there arises a web which cannot be disentangled. In Goethe's sentence we find another contrast : he makes a distinction between thinking and conception : it is important rightly to understand what is meant by this. Goethe tells us that it is impossible for us to think of the simplicity in nature, for it is precisely in simplicity that it surpasses all that we poor complex worms are ever able to conquer by the intensely tangled convolutions in our narrow brainpans : on the other hand, that which is complicated in nature we are able to think though not to comprehend, that is to say, we can never grasp it at once, never infold it in a comprehension ; it is true that we see the single details, and are able to explain them to ourselves in thought, but we are not capable of mastering the "architectonic idea of the whole" upon which Kant sets so high a value. That by "comprehending" Goethe means what I am here explaining appears from a notable passage in the *Annalen* (1801), where he says of a visit to the riding-school in Göttingen, "the reason why a riding-school exercises such a wholesome effect upon our understanding, is that it is perhaps the only place in the world where we see with our eyes, and learn to comprehend the suitable limitation of what we do, the banishment of all arbitrariness,—even of chance." We comprehend exactly what we are surveying, for then we possess the idea of the whole : of nature, on the contrary, he says, that everything is more complicated than can be conceived. From this, however, there results an unexpected deduction : a system which is not complex, a system which is quite simple and perspicuous will never be a really natural system. There is a special difference which rules between the simplicity which we discover in nature, and the artificial simplicity of the man of arbitrary systematisation and suitable limitation, as Goethe called it : that natural simplicity is, as we learnt from the conception of metamorphosis, an

idea, which in order to become plastic and come into existence needs the amplifying idea of limitation ; here there is a transcendental relation, whereas the other artificial simplicity of the arbitrarily thought out logical systems at once, and with a simple one-sidedness, grasps facts and transforms them in human fashion. The horse, the embodiment of the freedom of stormy motion, forced into the riding-school—that is surely a glorious symbol of human simplicity in contrast to the simplicity of nature. Thus, for example, a clever child will in a single hour gain a general view of the plant-system of Linnæus, whereas the system set up by John Ray and Jussieu, which has since undergone a process of incessant perfecting, needs the intimate study of years and great practice in observation, in order to become really seen and assimilated. And the more deeply such a natural system is investigated and grasped, the more firmly do all the parts entwine themselves into one another : that in it which is natural, foreign to the essence of man, and organic, continuously comes more and more clearly to light, and in an organism every part is conditioned by all the others, so that the isolation of simplicity becomes less and less attainable. What you learn from Goethe,—from that Goethe who never ceases singing the praises of that which is simple, classic, perspicuous, and limited,—is this : the more natural a system is, that is to say, the higher the degree in which it is true to nature, the more complicated will it be, and hence the more difficult to comprehend.

This remark is of special importance for the understanding of the style of Kantian thinking. For if in all natural systematics, which is equivalent to saying in all science, we discover that by the side of simplicity complication is the second and never-failing feature,—that contradiction is perhaps nowhere so directly evident as in Kant. This accounts for the much quoted and much misused passage in a letter to Beck, where Kant, in the

year 1794, when he was at the zenith of his intellectual powers, winds up a very subtle elucidation of some of his fundamental thoughts with the words, " I observe, as I write this, that I do not even fully understand myself " (*Letters*, II, 496). Philosophical commentators draw from this all sorts of malicious conclusions,—and yet every creative mathematician and every teacher of natural systems of any importance would be justified in saying the same of himself. Whoever realises the connection will not be able to help smiling when he hears men on all sides take this characteristic of complication, which is worthy of all admiration, as a reproach against the contradictions in the thinking and system of our philosopher. But how comes it that Kant's system is even more contradictory than that, for instance, of Zoology? I think that it is essential to the subject with which he is dealing: what he understands by " pure reason " is, as he says himself, " a sphere so isolated, so thoroughly interwoven " (P. preface), that here more than anywhere else it was possible, so far as our symbolism is capable, exhaustively to attain the architectonics of nature. Besides that the whole activity of reason consists in systematising: whatever it may be that reason takes into consideration, its activity always aims at " a system drawn up according to necessary laws " (R.V. 673); every single idea which " sees unity in plurality " at once creates a system. It is therefore from the outset probable that an enquiry into pure reason, if only it be properly applied, should go further in the discovery of architectonic natural System than in any other domain of thought. That in this case the result must in a high degree participate in those two opposite qualities—plastic contradictions—of simplicity and complexity, becomes for us as unquestionable as it is important. And if we look upon that simple man as he lived in his beloved Königsberg from 1724 till 1804, then these two predicates, simple and complicated, appear

to us not only to describe his thinking and creating, but indeed his whole being.

I have still something to say about "complication"; that can only be in connection with another question but which I must now pass, and which again I purpose to treat as a question of style. Our last observations have all rather insisted upon the question of Kant's matter. With what is it that Kant is dealing? He postulates a science: well! what manner of science does he want? a science of what? Here the question of Form has transformed itself into a question of Matter. But if I previously dealt more closely with Form, because that was tantamount to an exposition of Kant's philosophy, so I must in the same way say here that a satisfying answer to the question of Matter would demand no less than the complete development of the whole system. And yet I believe that in the course of these lectures you will by degrees have come near to an understanding of Kant's aim; beginning with the lecture on Leonardo we have each time gained something towards its more exact definition, but especially in the Plato lecture we touched it closely. As soon as you have grasped the meaning of transcendental relations, the "matter" of the new science can no longer seem altogether strange to you. That such relations are at the bottom of all that we call experience is Kant's discovery; the investigation of the architectonic connection of these relations leads to his system; the resultant conclusions as to the essence, sphere, and limitation of science and religion, form that which may be described as his "positive teaching." To-day, as I have already said, I would fain treat this question also as one of style: I would fain attempt out of the rich store of our knowledge as to the intellectual qualities of Kant's personality, to obtain—if not a technical scientific answer to the question of matter,—at any rate an exact presentiment of the answer, an

' appreciation of the general style of thinking, which should lead to the definite demarcation of so isolated a domain. For it is indeed no paradox to affirm that the matter which a man chooses as the subject with which he is to deal, belongs, at least as a symptom, to the style of his thinking and working,—matter in contradistinction to theories and facts. Very apposite is here Buffon's saying constantly quoted in a crippled form, *Les connaissances, les faits et les découvertes sont hors de l'homme, le style est l'homme même*. And how fine is what that now undervalued man adds, "all the intellectual beauties of style, all the multifarious relations which go to make up style, are in themselves useful truths, more valuable perhaps for the human intellect than those truths which may be discovered in the subject dealt with."⁴⁴ We throw up the question of matter, and by so doing seem to go over to the impersonal, whereas in truth we are listening to the innermost secrets of the personality.

We know that Kant believed himself to have opened a new sphere to philosophical thinking, and indeed the first section of the introduction to the *Critique of Pure Reason*, in the first edition, bears the title of "The idea of transcendental philosophy": here then we have the name of the "new science, of which no one had up to that time grasped even the thought." Later Kant wavered for some time as to the title, because the expression transcendental had at once given rise to all sorts of misunderstandings: he tried to substitute the descriptions "critical idealism" and "formal idealism": but he soon came back to the old name which, following the titles of the subdivisions of the *Reine Vernunft*, transcendental æsthetics, transcendental dialectics, etc., had already been adopted into common parlance amongst students of philosophy, and in his later years was wont to use no other expression than "transcendental philosophy." That the word was not happily chosen will be

generally admitted ; still, once the subject is assimilated the name does not signify : the syllable *trans* at any rate allows us to think of something that is beyond—over there and over here—while *scandere*, to climb, may serve to show that the two things which have to be united are separated from one another by a high wall. The word “transcendental” must become so familiar and indispensable to us, that we give no more thought to the word as such.

In the first place we must say that Kant’s transcendental philosophy is a science of boundaries.

We have already seen how the limitation or definition of the meaning of words was one of Kant’s favourite occupations (p. 22 *seq.*). The exact limitation of sciences as against one another is in his view one of the most important tasks of all philosophy. Even fifteen years before the *Critique of Pure Reason*, at a time when he had not yet found a word for the idea of transcendentalism, he dreams of a science “of the boundaries of human reason,” and says, “since a small country always has many boundaries, and as a general proposition it is more important to know thoroughly and affirm its possessions than to rush blindly upon conquests, so is this need of the science of which I am speaking the least known and at the same time the most important” (Tr. 2 T, 2 Hptst.), and when he has in this way ended the first of his critiques, he describes his philosophy as a “Discipline for the fixing of boundaries” (R.V. 823). And as a matter of fact the entire web not only of his *Critique of Pure Reason*, but also of his other critiques, consists of a system of delimitations of boundaries. The boundary is drawn between sensibility and understanding, between perception and sentiment, between perception and phenomenon, between pure perception and empirical perception, between understanding and reason, between practical reason and theoretical reason, between pure under-

standing, pure reason, and pure power of judgment, between judgments of elucidation and of expansion, between decisive and reflective power of judgment, between constituent and regulative principles, or again between transcendental and transcendent, between transcendental and empirical, between transcendent and immanent, etc. etc. Nor must you set up the plea that this is the same with all philosophers,—that it is a question of definitions; for it is precisely a characteristic feature of Kant's style of thinking, that he seldom defines, and then always only tentatively and only with previous verification; the whole remains in a state of living progress, progress into a state of perfection. Kant accepts that which is given as given: e.g. the fact that Physics are an exact science; he goes into no abstract reasoning upon it, but at once seeks by limitation to separate it sharply from some other given thing. Once that has succeeded he searches whether the subject in question does not consist of parts, and these parts again are defined the one against the other. In this way there arises by degrees an ever clearer image. The manner of the work reminds one of a cartographer who first draws the general outline of his map, the lines of coast which separate land and water, then by degrees the rivers and mountains which divide countries from one another, and ultimately partitions the individual countries by showing their intimate structure. No one can pretend that Kant deals in figurative language, though he can do so happily enough when it serves his turn: still, in a deeper sense his style of thinking rests upon perception, since it is always by means of delimitation that he proceeds. In this way it is that Kant proves himself as geometrician and architect; a man with other qualities could not have achieved this. But that is not enough to say. For if we have previously spoken of the value which Kant set upon form, here we have to talk of something else, that is to say,

of the necessary form of the fixed matter : the recognition of the transcendental relations presupposes a permanent unambiguous distinction, with a sharp limitation of the domains ; here the law of matter coalesces with the instinct of this individual. But how are boundary-lines to be drawn in the realm of thought where the cartographer has no pencil ? By negations. Hence Kant's remarkable saying, " Negations are transcendental form " (*Nachlass*, I, 238).

So much for the present about the formal in this matter, in other words about the necessary form of the matter considered as style ; but now we must enquire as to the " transcendental composition " of the matter, as Kant calls it in the same place.

The first and fundamental point which we have to establish is that whatever the transcendental may be otherwise it is in any case motion. An interesting sentence of Friedrich Hebbel's, in which falsehood and truth are interwoven, will perhaps give us a help to the more exact conception of what is here indicated.

The poet writes, " where all boundaries intersect each other, where all contradictions touch each other, there is the point where life arises."⁴⁵ The word " contradictions " is, at any rate so far as our object is concerned, inexact : it is impossible to affirm that sensibility and understanding, empirical and pure, form and finality, contradict one another, any more than we can affirm that right and left, or masculine and feminine are contradictions ; they are rather opposites, that is to say, conceptions and things which it is impossible ever to reduce to a common notion. Now what Kant in his graphic delimiting investigation of reason discovered, was the fact that at every stage of recognition, from the first dawn of consciousness to the most comprehensive perceptions and the most subtle thoughts, there are always at work two opposite elements such as we have

described, and it is where their boundaries intersect one another, as the poet puts it, that we find the point where life arises. These opposites which are the complements of one another may be looked upon—as we know from the Plato lecture (p. 64), as generating and as generated; it is here that “life arises”; it is impossible to go further back; to attempt it would be utterly senseless, for time itself arises here. If I were to follow the example of others, and adduce the comparison of the two stones which we strike together in order to call a spark into life, the image would be doubly false; for in the first place the two stones are of equal value, and secondly, in the striking of the spark we are dealing simply with cause and effect, whereas in the case of transcendental contact two elements which are incommensurable come together, and each only has a meaning and a significance through the other, in the other, for the other, and in consequence of the other. It was in his advanced age that Kant at last found a concise formula for this relation, when he said of the two universally demonstrable transcendental elements awakening recognition by combination, “standing reciprocally as foundation and consequence in relation to one another they constitute a whole”⁴⁶ (Üg. III, 405). In order that the image should fit it would therefore be necessary that each of the two stones should be the foundation of the other. And so we are drastically shown how little any example of cause and effect drawn from empiricism fits those transcendental relations, where the one is only the foundation of the other, in so far as it is also its sequence, and so they are reciprocally in counter-relation. The thought of finality is not the foundation of the form of life, nor is the form of life the foundation of the thought of finality; and yet there arises in our consciousness a whole—which is life—insomuch as form is thought as finality, and finality is perceived as form. Here the conception of cause out of

necessity, as we know it through empirical nature, is no more fitting than the conception of cause out of freedom, as the moral world shows it with the certainty of fact ; we are dealing with another domain, with the domain in which consciousness is first seen as created and creator ; as Kant says, " transcendental questions only admit of transcendental answers " (R.V. 665). Every image here misses its aim. Yet even if the image of the two stones striking together does not hit the mark, there is in it one thing which is none the less correct : whatever the transcendental may be otherwise, it is as we have said in every case motion. In this relation the verbs in Hebbel's sentence are all three admirably apposite :—to touch, to intersect, to arise. You will remember the passage in the *Theaitetos* (156 *et seq.*) where Plato, with the intuition of genius, teaches us that all perception is motion, and indeed " a motion of two elements," and it is only the conjunction of the two which produces the man who perceives and the thing perceived.⁴⁷ The same thought is carried further by Kant, and carried to an exhaustive analysis of the whole human intellect ; starting from perception he penetrates all depths and everywhere finds the " motion of two elements," and everywhere contact, intersection ; bursting into life. So far as I know Kant has never spoken out his mind upon this subject clearly as I am doing here, but the matter crops up at every step ; for it is its one characteristic that in small and in great there must ever be separation and limitation, while a second characteristic is that the generation into being (the *genesis eis ousian*, as Plato calls it) takes place in the focus of a motion,—a motion which, according to the standpoint of observation, appears either as rushing together or bursting asunder. Listen to one or two of Kant's sayings. The unity of consciousness, that immovable centre of the Kantian manner of thought, is, so to speak, continued motion, for in this case there is

incessant combination; this unity arises out of, and consists only in, the uniformity of the "action" (R.V. 138), that is to say, it "exists as intelligence which is only conscious of its power of combination" (R.V. 178); even thinking is preferably described by Kant as "action" (see e.g. R.V. 67), thinking "is in reference to perceptions" (R.V. § 1), and so moves towards them: thinking is "the action by which a given perception is referred to a subject" (R.V. 304). Understanding is described as "a power to combine" (R.V. 135), its power of synthesis is "nothing more than the unity of action" (R.V. 153); "understanding is an activity" (Ref. II, 147); understanding "is attracted by sensibility," sensibility "is attracted by understanding," that is to say, they are in motion towards one another; sentiment is an operation (R.V. 34), and therefore a motion, and so much of recognition as is not sentiment, "must be action which precedes experience and by which experience becomes possible" (Ref. II, 147). I quote whatever first comes on turning over the leaves; the fact that here we always find a duality reciprocally conditioning itself, suffices to show that the conception of motion must be found in Kant everywhere and without exception: either there is practical combination and conjunction, as is the case in all the constructive parts of his works, or that with which he is dealing for the moment presupposes a second and opposite element, and we misunderstand, or do not understand, Kant at all unless we keep this second element in our minds, and turn ourselves round in order not to lose sight of it: for example, if we take no heed of freedom in the critique of nature, which looked at objectively constitutes the opposite of the critique of pure reason, while subjectively it deals with the critique of theoretical reason: or if in the critique of freedom, which subjectively considered is a critique of practical reason, we forget nature and her laws. The exact central

point between the two, where the generation of being takes place, is a *punctum evanescens*, which is perpetually arising and perpetually disappearing, something as incomprehensible as the Ego itself ; it was only at the very highest pinnacle of his mastery that even Kant was able from time to time to take his stand upon this middle point, as it were in suspense, and so there arose perhaps the most remarkable and richest in stimulus of his works,—“the Critique of the power of judgment.”

What I am indicating here,—for these are no more than short indications the building up of which is left to your own reflection,—appears to me to be of great importance for the understanding of the personality and of its works. What must be evident is that this philosophy is from the outset “dynamic” : the matter itself, the style of which we are investigating, is considered and shown as motion. Only a born and technically educated physicist could hit upon this,—only a man in whom the methods and, connected with them, the mode of thought of modern exact science, as opposed to all purely logical speculation, had shaped themselves into flesh and blood. I have over and over again in these lectures pointed to the special ruling power in the modern conceptions of natural science : Newton we looked upon almost like a colonist in the far west, hewing out clearances with the axe ; the conception that bodies attract one another, amplified by the inevitable second conception that they repel one another, must at first appear to every thinking and simply honest man as something monstrous. A whole education is needed before we can make such a doctrine part of our life : and even systematic education would not suffice unless cosmologists and physicists and chemists were able to point to the results of these methods of thought : in truth it is these results alone which compel us to capitulate. But if I speak of attraction that is only in order to show the thing from its most

perceptible, allegorical side. Attraction and repulsion are words, images: one thing alone is decisive; since the days of Galilei and Descartes the symbolism of motion has been the foundation of all natural science, and that means dynamics, the representation of force; we no longer ask as men did of old, how is rest disturbed? How does motion arise? What God is it that turns from without or from within? But rest is no more than a phase of motion, and, as a general proposition, can only be accepted as figurative and with reference to the relation between certain equally moved bodies; what is given is motion, absolute rest would be the *non ens*; the *perpetuum mobile* is in modern times the fundamental hypothesis, the *perpetuum immobile* is the unthinkable; "everything that is real is force in motion," says Kant to the physicists, "motion alone fills a space"; matter is now motion, and the so-called impenetrability of matter is radiating centrifugal force. Kant's fundamental acceptance of the essence of recognition is demonstrably in union with the acceptations of all exact science.

Here, however, a further reflection peremptorily forces itself upon us. The motion of a single and solitary body is as unthinkable as it is inexplicable. Motion is relation: a body can only move itself in relation to others; the conception of motion comprises that of plurality. All monism is therefore excluded. A logician, like Plotinus or, Hegel, or a mathematician like Spinoza may be a monist; and the joke of the day is that an eminent zoologist is preaching "scientific monism" to the muddy-minded multitudes as a new religion: no cosmologist or physicist can be a monist, and Bruno's *unità assoluta, che non si muove*, is in his conception the very essence of nonentity; for according to his view unity and rest are only other words for the *non ens*; even the equilibrium of forces is designated by the physicist as "death."⁴⁸ In this connection it will not be difficult to understand

Kant's meaning when he shortly says, "the transcendental idealist is a dualist."⁴⁹

I should like to compress these facts, important as they are, for the consideration of Kant's style of thinking into three short sentences.

1. Kant considers motion as essential to all the phenomena of consciousness.

2. Motion consists of relations between things which differ in themselves.

3. Relations are in Kant's estimation an extreme beyond which it would be senseless to attempt to go.

From this it follows that everything which in Kant can in any sense be called explanation or meaning or theory, must and will consist in the revelation of relations between pluralities, and in nothing else: and in the same way the architectonics of his general view of philosophy must of necessity reveal the form of a system, perfected as far as possible, of relations reciprocally conditioning one another.

Here it is that, in my opinion, Kant is differentiated from all the philosophers of the world (so far as they are known to me). Plato alone stands upon the same basis, but has left behind him no system. For, either men abjure all philosophy, or else philosophy means for them the search for one final principle, that is to say, a last or first foundation in which all the rest is as it were wrapped up. I open two admirable modern manuals, the one German, the other French: the German says, "Philosophy is the recognition of the absolute foundation of being." The Frenchman writes, *La philosophie est l'effort . . . pour expliquer le monde par une cause des causes, ou cause première*. Again listen to Daussen, who perhaps is more familiar than any other man with the thinking of all the people of culture of the world—"the striking quality common to all elaborated philosophical systems is that they find it necessary to establish one

fundamental principle from which they then in manifold ways busy themselves to comprehend the existence of the world and of its phenomena."⁵⁰ (*Allgemeine Geschichte der Philosophie*, I¹, 3.) Apart from those thinkers who, like Hume, start by renouncing philosophy,—from those true sceptics whose philosophy consists in having none,—the definitions of philosophy from the most ancient times down to the present day, are in accord, and include our most modern empiricists and materialists as well as the spiritualists and metaphysicians. However much a philosopher and investigator of nature, like Wilhelm Wundt, may differ from a man like Schopenhauer in his starting-point, his method, and his aim, the doctrine of will which he sets out in his "system" of philosophy, is no whit less absolute, less "finite principle," less dogma, than that set out in the "*Welt als Wille und Vorstellung*."⁵¹ And so it is throughout. The order of thought of physics is still utterly foreign even to our professional investigators of nature—and how much more so to our professional philosophers—at any rate as soon as they begin to philosophise. Kant; on the contrary, not only goes hand in hand outwardly with the cosmological physicists, but is also inwardly in complete harmony with them; he searches for no "absolute foundation" or "finite principle," but is content to reveal the last discoverable relations, and to expound them intelligibly in their connection with one another. That is why he stands amongst us as a stranger, an object of wonder, but not understood.

Here then, since we have arrived at these general views, it is time that we should go a step further and attempt a nearer estimate of the matter to which Kant devotes his thinking. In this, however, we are faced by a difficulty to which I must very briefly call your attention: I shall soon return to it again, and in greater detail. In the papers which he left behind him, Kant,

upon one occasion, makes use of an astonishing image, when he says that transcendental philosophy is a system based upon the principle of eccentricity (Üg. III, 405). You probably know, for these are things which every man ought to know, that the so-called eccentric disc is a mechanism by means of which rotary motion is converted into vertical motion and vice versa—in every workshop in the world you may become acquainted with the principle of eccentricity by ocular demonstration. Now the more you reflect upon the transcendental method, and the deeper you, in consequence, penetrate into its essence, the more you will admire the appropriateness of this image. In the transcendental the conversion is continuous and unbroken. It is not therefore only, as we have seen before, always plurality, always relation, always motion which is to be recorded in this matter, but also always the process of conversion out of one form of motion into the other: it is only this moment of conversion upon which transcendental philosophy fixes its gaze. For example, it only considers the object at the moment where reason takes it up,—therefore subjectively—while, on the other hand, it analyses the subject by means of the object which it has created—therefore objectively: sensibility is regarded by it as a function of the understanding, and understanding is regarded as a function of sensibility; the idea makes experience possible, it is only in experience that the idea takes root, etc. It will be easily conceived that where such an eccentricity as this constitutes the principle, a definition susceptible of only one meaning, to do justice to the thought is impossible. “It is difficult,” says Kant, “to come to an understanding even of principles of this sort, because they hit upon the method of thought before arriving at any settled conclusion as to the object, and conflicting claims of reason render ambiguous the point of view from which the subject has to be considered.” We must therefore approach the

question from different sides in turn, and must attempt a one-sided subjective, as well as a one-sided objective, definition of the transcendental matter : the one will be equally as justifiable as the other. But even so we shall not have accomplished enough, since it is open to us to comprehend the objective-subjective theoretically as well as practically.

In order to proceed surely we will first take the matter into consideration from the most comprehensive standpoint, and ask ourselves once more the question, what, after all, is Kant's aim in philosophy? Upon this subject we have a terse answer from his own mouth.

Kant says, "Philosophy is the science of the relation in which all recognition stands to the essential aims of human reason, and the philosopher is no dealer in reason as a fine art, but is the lawgiver of human reason" (R.V. 867). We must dwell upon these words for a moment in order that we may exactly grasp their meaning.

The "essential aims"! Here we have the same leap out of the speculative into the practical which was taken by our natural science in the fifteenth and sixteenth centuries. The Greeks, all honour to them for it, had regarded the Cosmos as a work of art : as a consequence, every explanation must be human, harmonious, logical, illuminating, reasonable : the Teuton awoke to consciousness : on this road we can travel no further, we confine nature within the boundaries of our humanity and end by only finding ourselves once more ; let us propose to ourselves another aim—the mastery over nature. The man who wishes to dominate, restricts himself, in all modesty, but so he soars above those whom he rules. Mephistopheles says rightly, "he who can afford six stallions, gallops off as if he had twenty-four legs." That is the allegory for the present meaning. I renounce walking, and go forward all the faster. Nothing carries us so far, so incalculably far over ourselves as a method-

ically and rightly grasped conception of what we are aiming at and of how to reach it. The man who was the first to mount a horse was no doubt looked upon as a fool : but no human being could foresee the immeasurable consequences of this thought to mankind. The founders of our exact science proceeded in the same way. Indeed they again had to be formers. Science is the reducing of knowledge to form, but instead of setting a pattern to nature as the Greeks did, these scientists copy her. The important mathematician Carnot says of the so-called higher mathematics which were discovered with that object, that they are full of enigmas which the mathematician himself does not rightly understand, and it is precisely o these enigmas that they owe their high achievements,⁵²

while Berkeley the philosopher for that reason stamps the whole of these mathematics as "shocking to good sense." I have more than once in the course of these lectures alluded to the modern conception of the æther as an enigma and as "shocking to good sense." What was the guiding star in such unheard-of achievements? Men kept in view the "essential aims"; to these, that is to say, to the attainment of these aims, everything was sacrificed, even if necessary the so-called healthy common sense—the supercilious, the Philistine, the Pharisee—the penetration and always the perfection, without which no Greek would have found any pleasure in mental work. Kant now takes the same decisive step : "Philosophy is the science of the relation in which all recognition stands to the essential aims of human reason."

Now that we have clearly grasped the main point to which it refers we will analyse the whole sentence. "Philosophy is science . . ."—Aristotle considered philosophy as the "doctrine of the divine" (*θεολογική*), inasmuch as its aim consists in the discovery of finite principles, and the finite principle—the first creator of motion—is God ; more or less modified in

expression, but identical in its aim down to modern times, down to Spencer, Mach, Haeckel, Hartmann, etc., is the definition of that which men strive after as philosophy : even Descartes, the solitary, wrote *Principia*, and imagined himself to have explained the world objectively. Kant, on the other hand, says, Philosophy is Science, that is to say, it is not explanation by principles, nor a question of " building castles in the air " (Tr. 1 T., 3 Hptst.) with that which is unknown or unsuspected, but a systematic construction of that which is given, of that which is known.⁵³ It is the " science of the relation," and therefore far from steering in the direction of that which is without relations, primary and unconditioned, it is from its very foundation an investigation into the correlation of things differing from one another. " Of the relation of all recognition." . . . Remember therefore that there is no question of an essence of recognition, any more than in Newton there is a question of the essence of motion in space : the recognition is there, it is a fact, and if we investigate it, it is not, as our school-philosophers have it, as a matter of speculation, in order to set everything out plausibly, with logical elegance, but in order to set fast the relation of this recognition scientifically upon something else. And upon what ? " Upon the essential aims of human reason." Humanly rich in recognitions, to what use do I apply them ? How is it that I do not rant and rave as a dilettante, and either vacillate hither and thither, or remain stubbornly pinned to one single spot ? My aims point in all directions above me into the eternal ; history shows me a chaos full of dark endeavours. Kant answers, " let there be an end of these fables of the Utopian Paradise of Metaphysics " (Tr. 2 T., Hptst.) ; let there be an end of this dogmatising of the Theologians and Materialists ; let there be an end of all this childish chatter about physiology and psychology which has no business here ; do as has been

done in Physics and Cosmology ; let the aim, not the result, be the dictator ; as soon as recognition is looked upon as a means, it becomes pliable, just as mathematics have become pliable, and climbs up aloft to tasks with which, of its own power, it has no aptitude to deal. Nature and freedom both lead to the eternally unfathomable : let your work be so informed that the relation in which all recognition stands to the aims of reason—mastery of nature, and conscious, dominant cultivation of the personality—may be brought into a systematic, uniform, architectonic combination, that is to say, make it into a science.

And now for the second part of the precious article of faith. " Not a dealer in reason as a fine art, but a lawgiver of reason." These words fix with even greater exactitude, and insure against misapprehension, the conception of the task which we have just set out, the conception of the matter which has to be dealt with. By the words " not a dealer in reason," Kant means that there should be no seeking after an " absolute foundation," after a *causa causans*, after a principle ; all that is superfluous, loss of time, sophistry picking at mere conceptions, whether it is undertaken, as Kant expressly adds, by logicians, or mathematicians, or professors of natural history : for even the investigator of nature becomes a dealer in reason as a fine art as soon as he travels on this road (*id.*, *ut supr.*). And in spite of all that is man to be " a lawgiver of reason " ? This saying can only be understood by those who know to what degree the human intellect has appeared as lawgiver in mathematics and physics, in order to found and build up the only entirely exact sciences,—for that is Kant's meaning. Here the thinker is pointing to the deepest secrets of human recognition, and of its relation to nature and freedom. Goethe, who never willingly probed first causes, spoke as you may remember of an " exact

phantasy of the senses" which he saw at work in the progress of our natural sciences; Kant, the dissector of our reason, discovered as it were as its central point, a function which he called the "productive power of the imagination" (R.V. I, 118 *et seq.*)⁵⁴ Whilst Goethe only looked at a last result, Kant had in this way revealed a past, without which we may say no recognition can take place. In order not to cross the boundaries which have been here laid for me, I will only make one remark: this power of the imagination must be "productive," that is to say, generating, creative, because there is no experience, no recognition where there is no unity; but this unity must be "produced" by the person who recognises; whence otherwise is he to obtain it? it is not given to him from without. Here again it is clear that we grasp the strong hand of the Dionysus-Plato: to recognise unity in plurality,—that is more than the Promethean gift of the gods to the human race;—thanks to this gift we are men, that is to say, we have reason.

To "discover" to "invent," says Plato the Poet: "productive power of the imagination," says Kant the analytical. All recognition, therefore all knowledge, even the very simplest, presupposes an act of creation. And what is science then, if it be not a knowledge of knowledge? a knowledge on a higher plane? the art, therefore, of bringing into uniformity a still greater degree of the manifold? One of the first of living mathematicians, Poincaré, says of exact science, "its true, its only aim is unity": and he describes the methods of thought of the physicists as "a bending and distorting of nature until she yields to the claims of the human intellect," that is to these claims for unity⁵⁵ (*La Science et l'Hypothèse*, 1902, pp. 207 and 197). That is what Kant understands by "Lawgiver." The Philosopher, which in Kant means the thinking man, or rather thinking mankind in general, is to be the lawgiver of reason,

instead of being as heretofore the dealer in reason as a fine art. Up to the present reason has lain idle in the laziness of autocracy: now reason has to serve, to serve essential aims, the aims of my personality: I, the man, so will it. And as I, conscious and determined, taking no heed of the mockery and the superior knowledge of the schoolmen, have discovered a system of mathematics for myself,—actuated by no selfish aim, but in order to arrive as near to the unimaginable phenomena of nature as might be possible,—so I am determined now in the same way to turn to account “all recognition” freely and in consciousness of the aim to be attained; for I am the lawgiver, and instead of allowing my aims to be directed according to my recognition, I will that my recognition shall henceforth be directed towards my aims. To that end, in greater no less than in lesser undertakings, a science is a necessity: that science I call philosophy, and by it I understand the “systematic unity of the manifold, and by its means the possibility of the highest attainable use of reason”⁵⁶ (R.V. in many places).

Here then we have Kant's general conception of the matter which has to be treated. The dominant difference between the unity upon which Kant insists here, the systematic, scientific unity directed towards human aims,—the practical, utmost possible application of the unity which strives for reason—and the unity of all the reason-mongers in their so-called philosophical systems, must now be sufficiently clear to you. It is no exaggeration if we say, we are dealing with a wholly different thing,—the matter is not the same. To have chosen the one matter and rejected the other, is what I mean by style of thought; it reveals all that is most personal in this personality. But you must see at once how imperatively this new matter claimed its new form, just as imperatively as the new Cosmology required a new

• system of mathematics and physics for the purposes of its necessary hypothesis. Here we may really affirm in a certain sense that matter is form. For what is our whole modern system of physics but form?—if it is not a creation by which the manifold is made one, and thus revealed, even should it be at the expense of much bending and distortion? And it is only through this legislatively introduced form that the horizon has gradually widened, since new facts, which without the new form would never have been attainable by our recognition, are thanks to it, discovered for us. It is precisely the same meaning which Kant attaches to his form; it is the indispensable machinery for the matter which he wishes to open out to us: it is through it that philosophy becomes science; and true science, not speculation, is alone capable of assuming the position of lawgiver, and of furthering the essential aims of man.

So much for the general proposition. But as soon as we look into Kant's matter more closely and, so to speak, technically, it becomes more difficult to arrive at the definition of the conception of which we are in search. We must go forward carefully, step by step, otherwise our conceptions must be indistinct, and instead of really understanding we must wade about in a quagmire of words.

Considered subjectively Kant's matter is reason,—considered objectively it is nature.

This statement might suffice of itself; but you must learn to understand that Kant reveals, and systematically investigates, reason in nature and nature in reason. With this it is proved that the transcendental method really lies entirely beyond this current distinction into subjective and objective, indeed so utterly beyond it that every continuous one-sided insistence, on one or the other standpoint, falsifies the peculiar fashion of this philosophy so as to make it unrecognisable. This usually

occurs in one direction: Kant's philosophy is understood by most people as rationalism, and therefore as a pure doctrine of reason, and it is only this view which explains how it is that people are still bold enough to give out Fichte, Schelling, Hegel—the whole development in the direction of Panlogism, of the doctrine of reason as the only truth—as a direct continuation and amplification of Kant. This is false from top to bottom. For the conception of the transcendental lays it down firmly as a first principle, that everywhere at all stages of consciousness, two things of any sort do and must unite, as well as that every attempt to show a unity behind the duality is in vain, inasmuch as it is without foundation. An isolated reason is accordingly from Kant's point of view a monstrous thought, and the principle, shared by Fichte and his followers, that "logical truth is the real truth," is no more than a sneer at Kant's critique. Kant teaches us that logic is a purely formal and entirely empty discipline, which can at best "give a title to possible methods" (R.V. 736); for that reason its use outside of what is given physically is "sophistical blinding," and "unjustifiable presumption" (R.V. 88). How differently does he himself set to work! When he is minded critically to investigate the organisation of reason, he turns to nature: this is at once in itself the simplest and most beautiful example of the transcendental method. He turns his eyes towards nature, and asks himself, "what principles is man following in his judgment, where he has attained an exact knowledge of the processes of nature?" This is obviously the experimental method of all empirical investigation. Exact natural science is there,—it is a fact,—it has proved itself to be so for several centuries; what method of thinking does it presuppose? That is to say, how did understanding behave itself in carrying into effect this so far-reaching accord with the phenomena of nature?

- If in order to investigate reason I were to interrogate reason alone, I should possess no objective criterium, indeed I should rather find myself in the same position as that of the schoolmen is and has been from all time. I should be a reason-monger, not the lawgiver of reason ; in exact natural science, on the other hand, my reason is for ever led by the bridle, it can move aside neither to the right nor to the left : here the law rules : that is why I consult exact science. In this question, so simple and put with such conscientious empiricism, Kant discovered a primary transcendental fact, for which he introduced a very simple name. " Understanding is the power of rules,"⁵⁷ which is as much as to say,—if it wishes to attain an exact science of nature, reason cannot move as it pleases, but there are certain rules according to which we combine experiences, and reflect upon what we have experienced,—rules which are the foundation of all knowledge of nature on a higher plane of culture, and of all scientific comprehension of nature : these are the transcendental judgments of the understanding : it is only by means of this single, determined system, a combination of parts exactly fitting into one another, that plurality is converted into unity.⁵⁸ There must be a system, otherwise no unity would be possible. That is why the understanding is also called the " power of the unity of phenomena by means of rules " (R.V. 359). It was following this road of empirical investigation of nature that Kant discovered the importance of the afore-mentioned scheme of formal logic : this scheme of formal logic is indeed a result of the unconsciously followed natural system of the transcendental judgments of the understanding. As soon as Kant had made this discovery he was able himself also schematically to build up and amplify this logical scheme handed down by Aristotle ; and so at last from the fundamental judgments or " rules " he arrived at the discovery

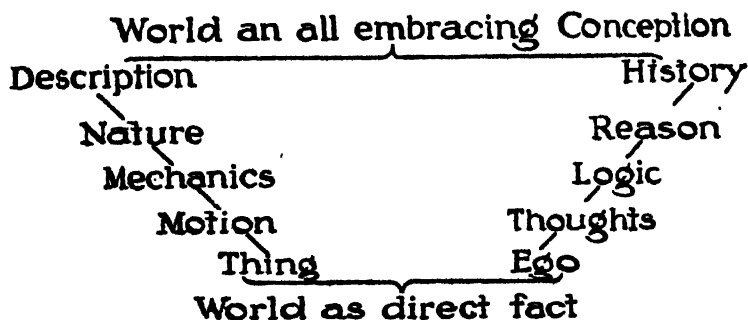
and enumeration of the fundamental conceptions, that is to say, to his table of the pure conceptions of the understanding, also called categories.⁵⁹ And so that which is apparently quite abstract, quite subjective in Kant's system, his most far-reaching analysis of the mechanism of reason, rests in reality upon an analysis of nature, in the shape in which exact science shows it to us. At the same time, however, we detect a fixed organisation of reason as laying the foundation for the scientific recognition of nature.

It is impossible for me here to go into details; what we have to observe in our examination of the personality is no more than this: when Kant wished critically to analyse reason, he interrogated nature: when he wished to understand systematised nature, that is to say, science, he dissected reason: that is the transcendental method: anyone who proceeds differently, knows nothing of the matter which is to be investigated here. Where there is no duality there can be no thinking: all thinking is relation, and all understanding is a relation which allows for a counter-relation. Those transcendental judgments of the understanding, and the fundamental conceptions which are discovered by their means, are, of course, in nature no more cause than they are effect. Well does Kant say, "the understanding is legislation for nature, that is to say, without understanding there would be no such thing as nature, that is the synthetical unity of the plurality of phenomena according to rules" (R.V. 126): but the stress is here laid upon "legislation" and "rules": whatever lives must organise (see p. 94 *seq.*), and what we call the laws of Nature are forms which thinking forces upon Nature in order to understand her. But the converse holds equally good: an incidental objection of Kant's is, who can prove that it is not nature "which first makes reason possible"? (R.V. 654), and he is very severe upon the natural philosophers who

"dabble in nature with *a priori* conceptions," and says that time will not preserve "the slightest trace of their footsteps" (R.V. 753, etc.). So far then from leading to panlogism, to a glorification of unfettered reason, to the autocracy of intellect, to the crazy assertion that "that which is reasonable is true,"—Kant's standpoint from the outset shuts the door against all such follies. "The true teacher who is set up for us," says Kant, is empirical experience; no matter how high the speculations of reason "may hold their heads under the title and pomp of science," they possess no value where the "substratum of perception" is wanting (R.V. 498, etc.). These indicated rules for the understanding are no less and no more than an expression for transcendental relations: it is true that they give the law to nature, but they at the same time receive it from her in another sense: subject and object reciprocally condition one another: the subject contributes the objective, namely the law; but the object gives the subjective, namely feeling. This is the view of which we have already brought forward the happy formula, "standing reciprocally as foundation and consequence in counter-relation, they make up a whole" (see p. 239).

From all these considerations we gather that we form a very imperfect and misleading estimate of Kant's matter if we see in it nothing more than what is rational and subjective, and place it in the same category with the conception of the philosophical matter of Hegel, Fichte, Schopenhauer, Spinoza, and Bruno. We should rather say that Kant's transcendental method, his conception of the domain of scientific philosophy, is neither subjective nor objective, neither reason nor nature; it is on the hither side of both; it sees the object only in the subject and the subject only in the object. But it is essentially impossible for us men to remain permanently upon the same point in the balance: in order to come to

an understanding we must hold either to a subjective or to an objective mode of expression, and that is why Kant's system may be understood objectively (empirically) as well as subjectively (rationalistically). The schematic table which I drew at the beginning of this lecture, gives you as it were a plan or outline of worldly wisdom sketched from the subjective standpoint. But this plan, from the standpoint of Kant's thinking, as you now understand, needs to be amplified by an objective counterpart, which it should not be difficult to sketch. Here naturally it is the World not the Ego which must furnish the all-comprehensive notion. I think that the plan would work out in something like the following way :



I see here the same disposition as in the first table : at the very bottom of all, the methods, then the facts which may be grasped by these methods, then the comprehensions, next the ideas, and last of all the most universal conceptions,—but this time starting from the standpoint of the object. What is interesting here is that we at once recognise “ Thing ” and “ Ego ” as what considered objectively they really are, namely methods. If we look upon the world as something previous which “ first makes reason possible,”—and transcendently this is just as reliable and just as unreliable as the opposite acceptance, and means no more than a figurative expres-

sion,—then the Ego is the method which the world follows in order to attain reason. Here, in contradistinction to the other table, science and religion are excluded, because reason alone is the uniting power: but in order that reason may be able to achieve this it must in the first instance, at any rate in a certain sense, hold the world in its grasp and impose laws upon it, instead of being as here a mere fragment of the world. Consistent materialism, as is plain, excludes not only all religion, but all science also; for the world (nature in the most comprehensive sense) is of its essence plurality, and can only lead on the one side to the description of Nature,—an undertaking which knows no limits,—on the other side to history—into that which can never end: the description of nature, however, is no more science than is history. Reason must here be taken to be a plurality of monads,—nature not in the sense of our first table as “simple,” as Newton had to regard it in order to call science into existence (*Principia*, Book III, rule 1), but as an eternity of things out of the motions of which the formal conception of mechanics may indeed result, but never a recognition according to law: Law, even what we are in the habit of calling the law of nature, has no meaning outside of the mind of man; understanding gives the law just as reason gives the idea; Plato knew this, and Kant proves it.

Let us leave all this alone—it is mere hair-splitting; I have had no wish to do more with this second table than I did with the first, merely to stir your thoughts out of the hard and fast numbness, the result of the habits of thousands of years. You must now see the objective-subjective in Kant’s conception clearly enough to enable you to understand a subjective and an objective definition of the transcendental matter without being led astray by its inevitable one-sidedness.

There is no reason for me to dwell at length on the

subjective definition: you are already familiar with it, and its tersest formula runs as follows: the transcendental touches "the possibility of recognition" (R.V. 80), and therefore also the possibility of reason in general. "Possibility" here means not an explanation in the sense of cause and effect, but a "comprehension" by means of a systematic insight into the organic interconnection. It may perhaps serve our end to give a somewhat more detailed expression to this terse definition in a purposely formalistic and pedantic sentence: transcendental philosophy has for its aim the architectonic building into a uniform system of all those transcendental relations which critical analysis has discovered, the combination of which has been effected by human reason (as the summary of all recognition). That system must be clearly arranged, true to nature, and law-imposing.

And now for the objective definition of transcendental matter. This again we find in Kant, and indeed in the same simple mode of expression which is peculiar to him. In the *Prolegomena*, § 36, he writes: the highest point which transcendental philosophy can ever touch is the question, how is nature itself possible? And in a short but inspiring paper, seldom read by any but professional men, written in 1788, "on the use of teleological principles in philosophy," we find the same thought condensed into a quite terse formula, "the possibility of a nature on general principles, that is transcendental philosophy." Briefly then, transcendental philosophy is the doctrine of the conditions of the possibility of a nature as a general proposition. This is, as you see, the literally exact inversion, and therefore amplification, of the subjective definition according to which "transcendental" indicates "the possibility of recognition." The application is bold, but it hits the nail on the head.⁶⁰ Transcendental philosophy makes no causal enquiry as to the possibility of a nature, it does not search for a cause, still less for an

absolute foundation,—for a *causa causans*; on the contrary, it admits that in the first place it knows nothing of what should be understood in general by the conception of a “cause” (see above, p. 201); but as Kant says with bewildering simplicity, the possibility of nature is transcendental philosophy. In other words, that nature is possible is a thing as to which there can be no question; if science has been accepted by us as an incontrovertible fact, then no man who is in his right mind will doubt the existence of nature; how then does it fare with this possibility? That it does not afford mere sentiments with their reactions, but a nature uniformly thought and asserting itself as uniform, that is and remains the fundamental riddle side by side with the riddle of uniform reason. Naturally it is incapable of explanation; science only teaches us to conceive: but how can we make this possibility conceivable? how can we shape this recognition into an exact science? This question is the transcendental question objectively taken into consideration. Only to give one example: Hume had shown that it was impossible for the Ego to borrow the conception of cause (and effect) from nature, and he thence drew the conclusion that this conception as such could not hold its own: here, evidently, experience is presupposed as a certain *something*, and the Ego as a certain other *something* which reflects upon experience, and comes to right and false conclusions about it. Kant sets to work differently. He says, “In transcendental recognition possible experience is the clue. The proof does not show that the given conception (of what occurs, for example) leads at once to another conception (that of a cause), for such a transition would be a leap which could in no way be justified.” So far, as you see, Kant agrees with Hume; however he goes on, “but it,—namely the transcendental proof,—shows that experience itself, and consequently the object of experience, would be impossible

without such a combination " (R.V. 811). Certainly the conception of cause and effect (causality) is not the result of experience, but it belongs to the existence of those rules of the understanding alluded to above, without which no experience could come into being, and therefore no possibility of nature could be given : but it so happens that experience does exist, and nature is there, consequently the conception " cause " holds its own. Plato had expressed it in his allegorical fashion " cause is related to reason " (*Philebos*, 31 A) ; Kant compresses it into a practically available formula : " transcendental truth precedes all empirical truth and makes it possible " (R.V. 185), " the possibility of experience in general is at the same time the universal law of nature " (P. § 36). It is in this that " the possibility of a nature " consists. That is the Copernican inversion which is wrought by the conception of the transcendental in thought.

All philosophers, says Kant, have been wrecked in the attempt to prove the *causa sufficiens*. It is impossible to go beyond what a condition of the possibility of experience stipulates, at any rate not in a philosophy as science. If " the object of experience be impossible " without a fixed combination, then it is mere word-chopping to represent this combination as unnecessary or questionable ; the object of experience is there, consequently the combination must be there also. That, however, must and can be sufficient for us ; " what of necessity determines the existence of things belongs to transcendental philosophy " (Üg. III, 314). Its domain extends no further.

We have thus selected out of the various possible definitions of the matter treated by Kant, two that are of special importance : the possibility of reason, and the possibility of nature : here we will let the question rest : a third definition, the possibility of freedom, I shall have

to take into consideration in another connection. In conclusion, I must now add one or two negative definitions : it is indeed indispensable, in order to avoid certain absolutely ineradicable misunderstandings, not only to know what the transcendental is, but also what it is not ; for you will always misunderstand Kant's " style " of thought unless you are aware of the sharply defined boundaries of the transcendental.

First, let us take quite briefly two negations, which perhaps hardly come within the four corners of these lectures, since they touch the terminology and therefore the technics of the system, but which, in spite of that, I shall discuss in order to spare you difficulties in your future studies.

" Transcendental " is not " transcendent." The difference between the two can be easily put allegorically. The " transcendental " is the domain on the hither side of all experience, the " transcendent " is the domain on the further side of all experience ; the aim of the transcendental is to fix the conditions under which experience takes place ; experience is its final goal ; the transcendent, on the contrary, wings its flight from experience as a starting-point in order to reach the domain beyond, in which it may open up knowledge as to the essence and significance of this experience of ours. That is why Kant translates transcendent by " flying over " and " extravagant " (in its etymological sense of " wandering beyond "). In the study of Kant's works it is very important to keep in sight this distinction between the two similar expressions, and indeed it is all the more important inasmuch as Kant himself seldom condescends to explanations, and so serious confusion may arise. For example, all our ideas (in the sense in which Kant uses the word) and our conceptions of reason (cf. p. 72, etc.) are in their origin transcendent, they " overstep the boundaries of all experience," and Kant says expressly

that their objective use is "at all times transcendent" (R.V. 383 *seq.*) ; and yet he himself calls these very ideas, which are at all times used transcendently, "transcendental ideas." The connection is as follows : Ideas, and here we can add the whole host of Plato's ideas, do, it is true, arise outside of experience ; they are born of the necessity under which reason stands for continually widening combination : by this it gathers further experience ;—think of the idea of metamorphosis to which, if you choose, you may add that of development ;—to this extent, therefore, the transcendent comes over to the hither side,—to the transcendental side ; for if it is itself in the first place the offspring of experience, it still serves as a support and lever for an experience which has yet to be won. The contention between Schiller and Goethe as to idea and experience suffices to explain the whole state of the case. Thus Plato, for example, would say the conception "Dog" is an idea, a transcendent idea, not an experience in the true meaning of this conception ; and he would be right ; but if we men were unable to grasp such ideas, if we had no such faculty, our experience would in that case be a right miserable affair : the idea then serves experience : the transcendent is the complement of the transcendental. In spite of this, or rather because of this, it is of the utmost importance to make a clear distinction here. For our pure conceptions of the understanding (categories) and our judgments of the understanding (see p. 255), with in addition space as form of our perception, time as scheme for the combination of understanding and sensibility . . . all these are not transcendent, but purely transcendental conditions of all recognition, of all experience ; they precede experience as its *conditio sine qua non*, and therefore possess not only objectivity and necessity, but they are, to put it briefly, "the objective" and "the necessity" ; their value is constructive (as Kant calls it), they, in the first instance,

build up experience and with it recognition. Ideas and the conceptions of reason, on the contrary, can never obtain more than a relative value (according to Kant), they guide us on a road, they help the understanding, they are subjective methods, not objective ways of thought and necessities of things. If we do not recognise that fact we are in daily peril of seeing the mere idea become objective and claim transcendental value as law instead of a purely transcendent value as guide. "For," as Kant says, "we have to deal with a natural and unavoidable illusion, which itself rests upon subjective principles and foists them upon us as objective . . . which hangs on to the human intellect like a burr, and even when we have detected its blinding operation, still refuses to leave off juggling in front of it, and incessantly drives it into momentary errors which have continually to be removed" (R.V. 354). That is exactly what we are experiencing to-day with the doctrine of development, a beautiful idea, regulative and full of promise, fitted as few are to bring to the light of day untold facts, but which gives itself out as matter of fact, enacts laws, claims a dogmatic value, upsets and founds religions, and so enshrouds our understanding in night that, without even being aware of it, we scoff at all logic and at all perception. Kant's transcendental critique alone, with the exact distinction between transcendent and transcendental, is capable of delivering us from this danger, and making men of culture of us, men, that is to say, who know themselves, and are not made to appear as fools by their own conceits.

Now for a second terminological distinction: transcendental is not metaphysical, and consequently transcendental philosophy is not metaphysics. From the days of Aristotle the science of metaphysics has meant the philosophy of theology; Kant himself so takes it, and says the special aims of its investigations are only

three ideas,—God, Freedom, and Immortality⁶¹ (R.V. 395, compare also Ur. § 91). Kant then feels, as we have often remarked in the course of these lectures, a special aversion from the metaphysics of the schools, and for the reason that they deal with things which lie outside of experience, disputing and dogmatising without ever being able to bring forward a proof of the value of their purely logical assertions which are not rooted in any perception. He speaks of them as “a dark ocean without shores and without beacons.”⁶² Metaphysics are as it were the counterpart of empirical psychology: it is only by means of transcendental philosophy that they can become a science; transcendental philosophy “must of necessity go before”: instead of this the metaphysicians have been going on building at their castles in the air for thousands of years, and demolishing one another’s work, without ever troubling themselves about the distinction between transcendent and transcendental, or about the counterpart which both form to empirical experience. Inasmuch as metaphysics dwell altogether on the further side, altogether in the transcendent domain, it is possible for that science to assert whatever it chooses so long as there is no previous transcendental critique. “Led on to childish endeavours, metaphysics grasp at soap-bubbles” (P. § 13, note III). But in spite of all this Kant was unable till his old age quite to break away from the familiar old word, and so he often uses it as a name for the whole perfectly thought out system of transcendental philosophy: that would make the critique into the negative preparatory part, and metaphysics into the finished, positively stated, doctrinal, systematic exposition. Thus a system of metaphysics as a science might be possible, provided that critique and transcendental philosophy should have been at work previously, and that in clear consciousness of all boundaries we should make it our business to develop “the whole philosophical recognition out of

pure reason in systematic connection " (R.V. 869). Here it is present to Kant's mind that a final answer to the above-mentioned questions,—always looked upon as metaphysical,—upon the subject of God, freedom, and immortality, is only possible with the help of transcendental philosophy with its clear systematising: through the distinction into theoretical and practical reason, God, freedom, and immortality are once for all removed out of the science of nature. That which is transcendent cannot be proved empirically, and never possesses more than a relative value: it can therefore be shown that God is only the conception of "a necessary and ideal Being, incapable of proof." So far transcendental philosophy answers the question of metaphysics, and therefore can itself be in a certain sense described as metaphysics. And yet it is noteworthy that Kant, as time goes on, uses the old academic word less and less, and at the close of his life almost exclusively employs the words transcendental philosophy, which have by degrees become familiar to him in the full range of their significance.⁶³

Now for a more important negative definition. It touches a question which we have already more than once started to-day, but which I cannot help again finally bringing into notice: for here we have to brush away deeply rooted follies out of the childhood of human thought.

In order to draw our boundary line firmly, once for all I bring forward the following words of Kant: "the transcendental philosopher in no way pretends to explain the possibility of things, but is content to set upon a firm basis that knowledge by which the possibility of the possibility of experience is conceived." If Kant's matter be the possibility,—and not only the possibility of reason, the possibility of nature, and the possibility of freedom, but briefly possibility in general, or as he here puts it with the simplicity of genius, the "possibility of the

possibility,"—then he is in no way concerned with the investigation of so-called first causes and the like, for that would mean nothing to him,—simply this possibility must be understood—nothing more (cf. p. 231). The so-called first cause is always less intelligible than that which it has to explain : Jehovah who creates the world out of nothing, Haeckel's primary cell out of which the whole realm of organisms arises by selection, are far greater miracles than the phenomena which it is their business to explain. What, on the other hand, is meant by comprehension we have already learnt from Goethe, and that has shown us that we only conceive that which consists of parts, and indeed of parts the relations of which to one another are clear to us ; for conception is of its essence, as we have before remarked, a relation and a counter-relation : we must therefore break up into parts this possibility with which transcendental philosophy deals, that is to say, we must analyse. This again can only occur by means of artificially regulated acceptations ; that is by hypotheses, because the philosophical questions first arise in final things where we possess no more parts ; yet we have before us the example of mathematical analysis, which, as we have seen just now, proceeds from monstrously arbitrary acceptations. " I take it for granted in the first place that what it sought for has been found "—such is the exordium of Descartes as the discoverer of that method of mathematical Thinking without which we never could have experienced the victorious course of exact science. Copernicus describes his own doctrine as " a possible acceptation which should simplify the deduction of the motions observed " ; he again chooses to " explain " nothing, but only to facilitate " conception," nothing more ; and however brilliant his idea has proved itself to be, the purely hypothetical and pre-eminently methodical significance of the whole shows itself in the fact that ever and again men of exact science

who have at their disposal intellect and leisure call in question the heliocentric theory of the world, or at least lay down its undemonstrability. As the mathematician Poincaré puts it,⁶⁴ "whether I say the earth revolves, or whether I say it is more convenient to represent the thing to oneself as if the earth revolved, comes to the same thing."⁶⁵ Kant then goes to work precisely in this manner. He, in the first place, expressly sets out as only hypothetical his proposed transformation of the mode of thought analogous to that of Copernicus, with the argument which you now understand: "the first attempts at such a transformation are always hypothetical" (R.V. xxii, note). He does indeed affirm that his earliest hypothesis, starting from the notion that all that we perceive as things are not things in themselves, but the result of a duality, is Sensibility+Understanding; but then he declares that the doctrine of all other transcendental combinations out of which recognition and with it the world and Ego arise,—is a hypothesis which will in the further course of his critical work be "apodictically proved" as a sure truth; this "proof," however, only holds good in the same sense as in the case of the fundamental hypotheses of cosmological physics. Copernicus had the courage to show the movements of the heavenly bodies against the evidence of the senses: as a result, a practical result, Galilei, Newton, and the whole development of cosmology down to our time have brilliantly justified him; for without his defiance of the senses the fundamental ideas of our modern physics and astronomy could never have been imagined. That, and nothing else, is exactly what Kant means: the sort of truth which he claims for his system of reason is no other than that which must be acknowledged in the Copernican system of the heavens: the aim is not to explain but to comprehend, and comprehension implies the setting up of hypotheses which prove themselves, which hold good

objectively as well as subjectively, hypotheses from which fruitful ideas proceed, and which lead to an architectonic system of relations on all sides. So far we may say of transcendental philosophy what may be said of all theoretical science,—it is above all a method.⁶⁶ In those last thoughts of Kant's, from which I have drawn so many golden sayings, we find also the following: "Transcendental philosophy is not a manner of recognition of any object of philosophy, but only a certain method or formal principle of philosophising." It is clear from the immediately following sentence how consciously inventive Kant recognised this method to be, where he gives precise expression to its aim, "that man should fashion for himself the conceptions in which he seizes (or imagines) the object world of reason" (Üg. III, 374). If man understands, it is because he himself creates those conceptions which render understanding possible.

It is impossible that this should not call up a vision of Plato, for it is the very pith of his philosophy, in which we have no confused mysticism of figurative ideas, enthroned in Heaven knows what wonderland, but the comprehension of man as creator, that he himself creates the object out of materials furnished to him, that from the first glimmering dawn of consciousness he has been an active discoverer and lawgiver: that is Plato's philosophy, that is precisely idea as "hypothesis," idea as "method," and idea as "Law." And if we ask, has this hypothesis proved itself? has it shown itself to be as fruitful as, say, that of Copernicus?—we may answer that it has been the source from which all science has sprung: that Copernicus himself is the most brilliant proof of its value. Philosophy alone remained locked out from this most fruitful thought that ever was conceived by man until Kant came and built it up systematically. Yet, barring these two—Plato and Kant—I fail to see anyone who, up to the present in questions of reason, has broken

the spell of the lust of explanation and gone over to the exact scientific method of comprehension.

This is the most important of all negations. Kant does not explain, he never even makes an attempt at it, but he contents himself with setting up a hypothetic system by means of which recognition and duty,—together with nature and freedom,—become intelligible as a whole according to fixed law.

As a matter of fact all remaining negations are included in this one, and I might spare myself any further trouble in this connection; yet there is a misunderstanding so widely spread and so destructive to every right conception of the Kantian order of thought, that I cannot help attacking it energetically and with all necessary detail.

Kant's transcendental philosophy is never and nowhere psychology.

It is precisely in this relation that the greatest sins are committed; for not only are nine-tenths of all modern philosophy nothing but psychology in disguise, but almost all professional philosophers conceive Kant's teaching either as crassly psychological or as psychology more or less cleverly veiled. And this happens in spite of the fact that Kant in all his critical works has repudiated the psychological method, that is to say, the delusion that any so-called "doctrine of the soul" could count as fundamental in scientific philosophy. Even in anthropology,—the science of man—Kant looks upon the phenomenon of human nature in itself and by itself as far more interesting than the attempts to explain it: "The subtle investigation of the manner in which the bodily organs are bound up with our thoughts is for ever in vain"—so says Kant (*Letters*, I, 138).

A Greek word sometimes hits the mark exactly. Psyche, the sweet wife of Eros, is the only figure of the ancient mythology that is still alive amongst us: but I much doubt whether the state would pay countless

professors, and bear the cost of annual congresses with banquets, if the talk were of "doctrine of the soul," whereas "psychology" with its many promises makes a noble show. Imagine in the twentieth century a flourishing science of the soul! Schopenhauer is right when he lays it down that now that the world has come into possession of Kant's critique, it should be forbidden "to speak of the soul as a given reality, as a well-known and accredited personality":⁶⁷ in spite of which our modern philosophy hardly speaks of anything else, and so gains the advantage of having an inexhaustible field for never-ending barren discussions. In the place of the logical scholasticism of the Middle Ages an equally fat milch-cow of sham science has come to the front in the shape of psychological scholasticism. For, as Kant says, "we must admit that psychological explanations play a piteous part when compared with those of physics, that they are endlessly hypothetical, while it is very easy in addition to three different grounds of explanation to imagine a fourth that shall be equally plausible, and that thence a mass of pretended psychologists of this kind arise, who know how to assign the causes of every affection or motion of the mind, and dub this farce of theirs philosophy, not only without having any knowledge which should enable them to explain scientifically the commonest natural occurrence in the corporeal world, but perhaps not even the aptitude for it."⁶⁸ Every word is as appropriate to-day as it was in Kant's time. It is characteristic of everything which has ever been called "Doctrine of the Soul" that it never and in no relation can be science, even though ulteriorly, as Kant says in the same place, it may serve for mere "collection of matter" in the ambiguous domain between various genuine sciences. The Psyche is an allegory, and it is impossible to make a science out of an allegory.

There has always been ambiguity in the conception of soul. Originally this word meant the breath, the breath

of life, thence the vital force; and what an unlucky conception this is we saw in the previous lecture (p. 85). Later on it came to carry the thought of immortality, and to this day renders good service in this capacity. But where the soul—and that too with the arrogant claim to a scientific discipline peculiar to itself, thrusts itself between the physiology of the nervous system and the science of recognition, there it creates a really mischievous confusion, and in the end leads to the chaos in which we find ourselves to-day, where Physicists write books about “the soul of plants,” and brain-anatomists write manuals of the science of the soul,⁶⁹ whilst the professional “psychologists” enquire of newly hatched chicks whether the idea of space is innate or acquired, and according as the chick pecks or refuses to peck at grain, declare themselves for or against Kant’s teaching, and so proclaim either that it has been “superseded by modern science,” or else that it is “to a certain extent founded upon truth, even though it is imperfectly and unscientifically set out.” Then the chick is traced back into the mesozoic ages, and thence still further back phylogenetically into an imaginary primary proto-proto-palæozoic epoch, in order that the “origin” and the “heredity” of the idea of space may be as clearly conceived as the preparation of an apple-dumpling. Such are the foundations upon which logic and the doctrine of recognition, and where it is possible even morality, are built up! We talk of going to the dogs. Modern philosophy has gone still further. Nearly two hundred years ago, the rogue who had more intellect in his little finger than a whole congress of philosophers, Father Shandy, dared to ask whether we were born with the conceptions of Time and Space? “or how we came by those ideas, of what stuff they were made, or whether they were born with us, or we picked them up afterwards as we went along, or whether we did it in frocks, or not

till we got into breeches ? ” To-day he would have had no courage to joke : I think he would rather have applauded the saying of Ferdinand Jakob Schmidt, who wrote in these modern times, “ We might shed tears of most painful bitterness when we see that the dominant direction of modern philosophy, in spite of that classical exaltation of German methods of thought, has sunk back into an empiricism of the shallowest kind, which threatens the destruction of our whole intellectual harvest. It would be a matter of ridicule if anyone were to attempt to deduce the differential and integral calculus from the observation and the inductive generalisation of empirical natural phenomena, but all the same it is accounted the perfection of wisdom that the pure laws of thought, which are even of more universal application than those of mathematics, should be arrived at by induction out of psychological processes of perception by the senses. This psychological empiricism is in truth the grave-digger of all intellectual cultural attainments ” ⁷⁰ (*Preussische Jahrbücher*, Feb., 1904, p. 354). Kant knew and told us to what it is that Psychology truly belongs :—to empirical anthropology, that is to say, to the description of Man (Ur. 443), and so far also in a wider sense to empirical, descriptive natural history in general (R.V. 876), but not and never to exact science in the true, legislative, systematic meaning of the word. We may, at a pinch, speak of a “ natural description of the soul,” but not of a science of the soul (M.N. preface).

The famous vexed question as to whether certain conceptions or forms of the understanding are inborn in us, or whether they are all only acquired in the course of life,—a question by the way which seems to remind us of the well-known dilemma whether the chicken came before the egg or the egg before the chicken—in no way touches transcendental philosophy : the latter rather investigates reason much in the same way as physics

investigate the fall of bodies. How it has happened that there are bodies and why they fall against one another is a matter of indifference to physics : the question of whence reason, and its correlative the world, proceed is equally irrelevant to transcendental philosophy : true science touches upon being, upon the eternal, upon the universal : every enquiry into primary causes is unscientific and barbarous. In spite of this it is certainly noteworthy that Kant, whenever sensible or foolish questions compelled him for a time to leave the sphere of his own exact science, expressed himself frankly upon this question as upon others. " Critique," he says, " will have nothing to do with implanted or inborn conceptions ; it considers the whole of them, whether they belong to perception or to the conceptions of the understanding, as being acquired."⁷¹ Even of the conception of space, which Kant is supposed to have taught as being inborn, causing thereby so many headaches in all our psychologists and most of our philosophers—even in a Helmholtz,—Kant says point-blank, " the conception of space may not and cannot be presupposed, for conceptions are not inborn but only acquired " (1789, *Letters*, II, 79), and in another place—" unless extensions had been observed no space could be imagined " (R.V. 349). Already in the dissertation of 1770 (end of § 15) Kant shows that the question of whether the conceptions of space and time are inborn (*connati*) or acquired after birth (*acquisiti*) possesses no interest for critique ; and yet he speaks up in favour of " acquisition," giving as his reason the fascinatingly simple consideration that the idea that conceptions could be inborn " paves the way for the philosophy of the slothful " (*quia viam sternit philosophiæ pigrorum*). We could expect nothing else from the simple, sound mind of the great thinker, practised in the investigation of nature, laughing in ironical superiority at all the hair-splittings of the philosophers.

So much for the first general orientation. This psychological confusion, however, is such a stone of offence over which the majority of men come to grief, that I cannot leave the matter so. We must put Kant's personal relation and the relation of his transcendental philosophy to psychology on a still firmer basis. There are here two things which are above all significant: the one is concerned with the objective, the other with the subjective consideration of psychology. I. Whenever the so-called psychological questions impinge upon the domain of true empiricism, Kant, in contrast to all other doctrines of the soul, lays stress upon mechanical physiology alone. II. Whenever Psychology comes into relation with reason, he unmistakably holds on to the position that science is a systematic comprehension, not an explanation by the discovering of so-called causes.

How consistently Kant, to the very end, thought mechanistically may be gathered from his two letters to Sömmerring of the 10th of August and the 17th of September, 1795, with the supplement "on the seat of the soul." Kant here shows that this enquiry about the seat of a soul is "not only incapable of solution, but also contradictory in itself," inasmuch as it presupposes space; he warns us not "to mix up the physiological task with metaphysics," but rather "to concern ourselves only with matter," and develops in a few short strokes of the pen an empirical hypothesis about the manner in which the impressions communicated by the various senses are bound together into one unity (law of association), a purely materialistically physical hypothesis which goes back to the last atomistic component parts of the material,—brings the play of the sensations into combination with the dispersal and building up again of chemical matter, and thus seeks to make "the unity of the aggregate intelligible by the structure of the brain." I shall set no more value upon the hypothesis than Kant

himself did, even though so important an anatomist as Sömmerring describes it as "masterly,"—it is the direction of the order of thought which interests us here. Empirically the brain cannot be considered as the organ of a so-called soul, but only as a transmitter of incentives of motion inwards and outwards, and above all as the "means of uniting all the conceptions of the senses," of those which are receptive as well as of those which are creative; if we understand this mechanism systematically, then we possess all the knowledge in respect to it which we are capable of possessing; all the rest are old wives' tales, or superstition masquerading as science. Physiology looks upon man as a bit of nature; organic unity does not here create personality, for that is purely ethical; it is freedom or nothing, and so void of all significance for nature: we may rather say that brain activity only makes In-Dividuality, that is to say, that which cannot be divided into parts, and this only relatively and comparatively, from the single cell to the complicated organism. In this organism there are all manner of systems which create unity.. which may be more or less developed; as, for example, in many cases an inner or outer bone-structure, one or more systems of circulation, a more or less uniform system for the reception and conversion of nourishment, etc. But that which has the most penetrating power of unification is the nervous system; here it is that the animal kingdom in the most marked fashion distinguishes itself from the vegetable kingdom, although even here remote analogies have been discovered,⁷² and that is why the great Cuvier was able to affirm that *Le système nerveux est, au fond, tout l'animal.*⁷³ The more this unifying system *par excellence* again centralises itself, the more importance does the organ of this higher unification, which we then designate as brain, acquire: not as though this mechanically organic centralisation and

individualisation were anywhere carried out uninterruptedly,—even in man the so-called sympathetic nervous system preserves its independence, and a perfect knowledge of the brain functions would not exhaust the knowledge of the movements of the body ; still, we can constantly find Cuvier's *tout l'animal* justified broadly : the brain is as it were the quintessence of the whole body. But observe this : the further the unifying nervous system is developed, the more richly does it differentiate itself : the new complication gains strength in relation to the growing unification : the more complete the individual the more manifold do his relations to the world outside of himself become.

“Alas ! that there should be so many senses !
They bring confusion into happiness,”

is Goethe's plaint. So soon as specifically different impressions of the senses, such as hearing, seeing, touching, are fused into one uniform experience, a function of the brain is presupposed, which must be considered an analogy of thinking. If, therefore, the one task of an empirical study of the brain consists in setting out the unifying functions of the nervous system in relation to the other tissues, a new task arises for it out of the necessity of showing a mechanical means for bringing about the uniformity “ of the endless multiplicity of all the conceptions of the senses,” that is to say, for the new unification of the personal multiplicity. That is how Kant treats the abiding problem of explanation by means of empirical investigation,—the physiological task, as he calls it : there is no word of soul, no word of reason, for neither of these is a “ matter ” which could be examined with scalpel and lens, and so be applicable to a scientific exposition of the facts.

What victories would be achieved in natural science if all investigators were such consistent materialists and

mechanists as Kant! But for this a philosophically critical schooling is essential. And so, in spite of the great advance of our knowledge of anatomy in consequence of improved methods of investigation, we are suffering from a Babel-like confusion in the domain of brain study. The problem of association once more stands in the foreground of the interest. Since Kant's demonstration that thinking is uniting, it cannot be otherwise: but your anatomist knows nothing of Kant, and therefore does not suspect to what an absolutely limited degree this problem comes under his competence: he is rather apt to search in the brain for things of which the so highly extolled "science of the soul" has prated to him, literally in the same way as Descartes butchered calves two hundred and fifty years ago, hoping to discover the organ of memory. Whilst every manual jeers at the great Frenchman because, quite incidentally and as an hypothesis, he called the pineal gland an important organ as bond of union between the brain and the soul,⁷⁴ we hear a continual buzzing about "ideogenous centres," about "tissues of association," about "sites of memory," and a thousand other meaningless words, which make us blush for shame to be the contemporaries of such crass folly! The empirical investigator should rather lay to heart Kant's golden saying, "we have only to deal with matter." Indeed, all biology is infected with this disease, and staggers under it; books on the soul of animals spring up like mushrooms out of the earth, and Ernst Haeckel has furnished his new church with a whole soul-nomenclature of so-called "psychogeny," from the *cytopsyché* of the archezoa to the *coinoopsyché* of the association of cells, the *histopsyché* of the tissues, the *neuropsyché* which already possesses its own special "soul-apparatus," etc. In the midst of all this come learned dissertations as to whether the infusoria already possess the conception of the Ego, and more such deep

thoughts. Professor Verworn goes still further and lectures us not only upon the "development of psychic life in the realm of the Protists," but even upon "molecular psychology"⁷⁵ (*Psychophysiologische Protisten Studien*, 1889). And this, forsooth, is empirical science. There is more wholesome understanding, more sense, more judgment, more feeling for the seriousness of life, in the silliest book of a pious monk in the so-called dark Middle Ages. A science of the soul of the Infusoria! A science of the soul of lifeless, purely hypothetical molecules! Is not that enough to show that such men, however cleverly they may set to work with their scalpel, and microtome, and microscope, and however much they may deserve our gratitude for their purely zoological work, can in no case have any suspicion of the true meaning of "science." That is the vengeance exacted by the lack of philosophical schooling. And so a short time ago one of the few zoologists who are familiar with Kant warned us that we can expect no full development of biology, so long as the investigators refuse to recognise these psychological errors as "worthless and untenable speculation," and "limit their experiments upon the subjects of experience, deaf to the seductions of the sirens' song of the doctrine of the soul"⁷⁶ But what is experience? An investigator of Haeckel's eminence believes in all seriousness that he possesses "experience" of the soul of the foraminifera in the Silurian system, whereas in truth his own soul is on the one side idea and on the other allegory. Without Kant no man knows what is experience and what is not, no man knows how far empiricism reaches, and where, on the other hand, thinking becomes transcendent. To put that upon a firm basis was the life's work of the great man; the man who passes that by with indifference is a barbarian, even if he should be a member of all the academies on earth.

That is the one point: if we are talking of biology,

then mechanical physiology is the only matter which Kant takes into consideration; I may not even ask whether there is such a thing as a soul of "intellectual nature," for "such a question would be senseless" (R.V. 712). But now for the second standpoint. The former dealt with nature, its motions, and its laws; this one touches reason and the systematic connection of its component parts.

Under the scalpel I could not detect reason; but it was reason which made me take hold of the scalpel: reason led the way, as it does everywhere, it is the Primary thing, that which is first given. Here our "science of the soul" sets itself a very proud task: it undertakes to "explain" reason,—it undertakes to represent recognition as arising out of that which is recognised; that is its "explanation." We are to see with our eyes the gradual tottering of logical thinking and recognition and the moral law, in convolutions of the brain, tissues of association, ideogenous centres, sites of memory and the rest; and we are to follow them up by means of psychological¹ observations of individuals and nations. That it must in the first instance take reason for granted is manifest; indeed, it must take for granted all the necessary judgments and conceptions without which there could be no experience and no nature: how else could it carry on its investigations? With the infectious simplicity of children and savages it presupposes an object (the brain) and a subject (the Psyche), it presupposes the subject and the perception of the subject, the world and the Ego as concretely given—even where in the further course of its investigations it sometimes arrives at throwing the one or the other overboard. Whether in this way anything of importance for philosophy, beyond the many inestimable observations which belong to descriptive anthropology, can arise, is a question that may be left on one side; certain it is that

Kant follows a diametrically contrary road. The road of psychology is, and is necessarily, quite subjective : the very name testifies to that : Kant's road, on the contrary, is strictly objective and therefore more difficult to follow here where the Ego chimes in so loudly. All our instincts are opposed to this direction on which he wishes to lead us, all of them drive us into the arms of the so-called science of soul. Here is repeated the battle which constructive science has at all times had to wage against common sense, that is to say, against the impotence of mankind to see the practical value of theoretical ideas.

I should like to go into closer details upon this point ; we may be grateful to the groundless misunderstanding of the Psychologists if it can show us the way to a perfect comprehension of the transcendental standpoint.

For the comprehension of Kant's transcendental method in its specific nature a comparison with Newton may render good service. It will be remembered with what a stroke of genius Newton understood how to extract from a phenomenon what made it capable of being grasped and elaborated by means of theoretical science" (p. 160 *seq.*). For example, colour remains eternally out of the reach of geometrical and arithmetical measurement and calculation : colour and calculation, colour and the measurement of space are incommensurable. But when Newton broke up the sunlight in the prism, he held the various colours in a fixed relation, of space to one another ; there was then a place for circles and ciphers, and it was not long before the unserviceable conception of colour fell out and was replaced by that of motion—no matter whether that motion were conceived as that of particles of matter slung into space, or more abstractly, and therefore more practically for science, as the oscillations of a hypothetic æther not to be grasped by 'hought : for the only matter of importance is that the conceptions of time, space and motion come into play,

while everything which cannot associate itself with them is laid aside, no matter whether that which is so laid aside should constitute the special essence of the thing. It was the same instinct of genius that influenced Kant : only his thoughts belonged to another sphere. It annoyed him to see our knowledge of our own reason drifting in such perplexity, whether its boundaries were clearly laid down outwardly, or whether they were perspicuously organised inwardly, and therefore given up to every phantastic notion, every individual assumption, every interested dogma, every psychological blundering. And why did this come about ? Because there was no objective criterium ; because the one party based themselves on logic, the sphere of competence of which they had never settled, and set up the most venturesome thought-structures, taking no heed of the necessity for unity, since logic is mere method, neither object, nor matter, nor boundary,—and so with equal justice affirmed and denied through all the centuries : while the other party devoted themselves to psychology, hoping to establish the essence of the presupposed “soul” by means of observations as to the coming into being of sensations, impulses, recognitions, and so forth. The logician was generally the keener thinker,—the psychologist, so far as he was guided by the senses, the better observer ; each of them had in a certain sense the best of it over the other ; neither could, nor ever will, attain any result that could in any way compare or even approach natural science in exactness, indisputability and fruitfulness. Kant set to work in the same way as Newton. Just as the latter pushed aside colours, and only retained so much of them as might serve his systematic purpose, by which means he succeeded in gaining out of a purely subjective impression a purely objective expression, so did Kant push aside the whole so-called “empirical psychology,” all the observations about the “properties of souls,”

about development of the senses, about the gradual coming into being and growth of the intellectual powers, about inborn and acquired faculties, and all the rest of it: for he understood (and this it is that constitutes the genius of a man), that in this way, however obvious and however seductive it may be, we can never fight our way out of boundless subjectivity, out of descriptive anthropology. And so he chose out another matter, in other words, just as Newton had done, he prepared for himself out of the same complex of facts another problem, a problem fitted to admit of an objective scientific, and that means a systematic, solution. If anything be "style of thought," that is: that is why it finds a place here: as Buffon taught us (p. 235) to gain an insight into such stylistic methods as these, is of higher value for the formation of intellect than the knowledge of the facts which are dealt with.

There is a passage in which Kant puts the peculiarity of his "matter" into a short formula. "Here there is no question of how experience arises, but of what it contains" (P. § 21 a). This is a saying which should never be lost sight of; it is the most important saying for the exact description of the aim of Kant's critical work that he ever uttered, and it served as a defence against the apparently unconquerable misunderstanding with which he was at once met and which is still flourishing luxuriantly. Out of ten professors of philosophy who lecture upon Kant, nine represent him as having proposed to "explain" how experience "arises," whereas his object is only to make intelligible what it is that experience "contains"—intelligible, that is, in the same sense as the cosmologists render intelligible the movements of the stars without being crazy enough to attempt to explain them. The *How* is subjective, the *What* is object: and if you ask what it is that experience contains, Kant will answer you that it is reason. Whatever else

may be contained in experience, reason must in every case be there in addition. But in what concerns the "World," in so far as it is to be taken as a counterpart to reason, Kant says, "we must imagine the matter of the world in such a shape as it ought to possess, if we wish to learn a lesson from it through experience" (R.V. 500, note). If I look into a mirror it is impossible that I should not at the same time be looking out of the mirror ; without a mirror I can only see fragments of myself, and the part which is of the greatest importance, the face, the eyes, not at all ; in the mirror I see them distinctly and need only pay heed to the reversal of the sides, and a certain measure of distortion owing to the perhaps imperfectly even surface. In the world then we see reason (among other things), and that under an objective light. In order to ascertain that which, in the human reason, is necessary, according to law, ever and always present, we must not interrogate the so-called soul, but, on the contrary, we must interrogate nature, the science of nature : it is here and not in the psyche of the individual that the objective of the subject must be discoverable : otherwise there would be no Things for us, we could not come to any understanding with one another. That which makes our judgment concerning material things common to me and to you and to us all is that which must be of necessity common to the reason of us all ; that is the thing which we call necessary and according to law, it is, in short, reason, and not the reason of this man or that, and that alone is the reason out of which a science can be fashioned. You see what I mean when I affirm that as Newton pushed aside colours so Kant pushes aside all that is subjectively psychological. He does not deny its existence, he does not deny that it may even offer some interest : $\frac{1}{2}$ but it does not concern him, it does not concern the whole objective theory of recognition, or all transcendental philosophy. It is of far greater importance

to arrive at a discovery of, and accurately to paraphrase, that property in our recognition which possesses a value "without distinction of the condition of the subject" (R.V. 142); this constitutes the pith of all scientific critique of reason; in this way alone can an objective investigation of reason succeed, whereas muddling with experiments on single subjects, and the hunger to explain out of first causes, is vulgar, unscientific anthropomorphism.

The transcendental philosopher then takes as his starting-point the great objectively furnished facts,—on the one side the fact of freedom, which pays no sort of attention to the condition of the subject, but rather leads to categorical laws for all,—on the other side the fact of exact natural science, which equally possesses certainty capable of proof. These two affirmations, that freedom is a fact and exact science is a fact, are of course hypothetical: they constitute the primary acceptations of the Kantian system, and in this system they have the same importance as the so-called laws of motion in Newton's cosmology. If anyone refuses to admit these facts, if anyone maintains that exact science is a mere matter of individual appreciation, and that man is without freedom, and consequently without a moral code, that is a man with whom Kant will not permit himself to enter into discussion.

What do we mean then when we say, the results of exact science necessarily hold good for all, without any "distinction of the condition of the subject"? Our meaning is that these results are an expression of objective truth. And what is objective truth? According to Kant it is the "accordance of recognition with the object" (R.V. 236). But how are we to find any criterion of this accordance? We should never find it in individual reason, or even in all the facts which psychology brings to light; there it is boundless empiricism which is

dominant, and therefore, when the critique of recognition is the aim in view, it is a mere question of "idle experiments with which only that man can busy himself who has failed to understand the quite peculiar nature of these (transcendental) recognitions" (R.V. 119). On the other hand, the fact of exact science, that is to say, the fact that there is such a thing as exact science, affords a guarantee: here we have found a criterion: the individual is apt to take a false view of many things, his senses perpetually lead him astray, and his judgment is often crooked; in spite of that nature daily affords the proof that in exact science recognition is in harmony with the object, at any rate in those relations which science can take into consideration. For the present we may leave unanswered the question of the nature of the agreement which takes place in science between recognition and object—the agreement may be literal or it may be symbolical; it might also occur that recognition and object should be in some sense interwoven: yet it remains undeniable that science can only succeed by deliberately leaving out of consideration a great part of the matter in general. Neither must we forget that the acceptations which were our starting-point, in many ways affront the ordinary intellect of man—it is not the heliocentric system alone, but all science which is Copernican—and if on the one hand nature has been observed with painful exactitude, on the other hand this observation has always been dominantly one-sided: the result has nevertheless, as I said before, shown that here recognition at any rate in certain relations comes mightily near the object, as we see from the glorious and apparently limitless course of discoveries which revealed itself from the moment when this method was invented by Descartes and Galilei, as well as from the fact that things hitherto unknown and never experienced are now often predicted with absolute certainty. Whilst logic since the days of

Aristotle has always dolefully renounced any dealings with nature,—abstract, one-sided, mathematical science has succeeded in approaching her, following her into relations which are full of mystery, but undeniably organic. These lectures have taught you that to approach close, objectively close, to nature has, from the very beginning, been the passionate endeavour of our modern European science ; it has ever been ready to make every sacrifice to this end : it is by this means that the much sought after harmony as criterion of objective truth was discovered by Kant.

In another connection (p. 253 *seq.*) I have shown briefly in what manner Kant interrogated nature by means of the analysis of reason, and how by taking this road he arrived at establishing firmly the system of fundamental judgments and primary conceptions which is essential to all exact science. What Plato had discovered from the Ego subjectively and affirmatively, namely, that combination in unity constitutes the essence of all reason, was now discovered objectively by Kant, starting from the object, and that moreover by the widest possible separation and negation. If we think of ourselves, and then become conscious of ourselves as an individual, a unity, a person, that is the subjective unity of self-consciousness : it is very convincing it is true, and yet none the less in a certain sense questionable and disputable, because it is only empirical and consequently “accidental.” This empirical unity, dogmatically certain though it appears to us, will in practice often be represented by science as merely relative. Duplications of personality are not rare, and there are many other phenomena of our being which appear outside of all conscious unity ; Kant never attacked this ; on the contrary, he writes, “ the unity of consciousness as an empirical fact deducted from experience, is not necessarily and generally admitted ” (R.V. 140). But now there is another unity,

an objective unity of self-consciousness which is rendered patent : that is the unity by which not the Ego but the object is conceived as a unity. There would be no recognition unless the matter of experience were bound up with separate unities, that is objects : the more conscious and the more perfectly accomplished the process of thinking, the more strictly these unities are circumscribed : for instance, cosmic physics unite the whole mass of a celestial body into one mathematical point. But if I look around there is nothing that is less evident to me than sharply separated points ; I only see endless, unlimited multitude inextricably entangled. How then do I manage so that my thinking in spite of this combines the chaos of perceptions into unities, until at last a Nature as the summary of all these objects stands in inviolable unity before my thoughts, since the unity of Nature is the foundation of all exact science ? Plato answers—the first step which reason takes on behalf of recognition is theoretical and autocratic ; reason creates unities, and unities are ideas. Kant does not contradict him, but he shows that there is another way of considering this quite as justifiable, and he supplements Plato's teaching in a most important manner ; looked at objectively it is the object which " makes unity necessary," and this unity which the object demands " can only be the formal unity of consciousness " (R.V. I, 105). If I chose to content myself with the formula, that it is reason that gives the law, discovers, invents, I should run the risk of falling into unfathomable subjectivism : that is why Kant finds his guarantee and the inexorable law not only internally within the Ego, but also externally in the object, that is to say, the conceptions of reason have no more objective value for him than is required by the object in order that it may be recognised as object. It is also true that Kant claims discovery and hypothesis as starting-point ; we have seen this several times, and

just lately (p. 269). How could he do otherwise when he had before him the example of exact science, and knew full well that science is systematic, system is architectonic, and architectonics are creative formation? (p. 221). But in the same way as cosmological physics find the safe criterion for their architectonics in the facts of nature, and constantly make them a test as to whether they are on the right way or not, so Kant, the systematic critic of recognition, has his lawgiver, and this lawgiver is the object, that which is objectively right in contradistinction to what is right according to the Ego. That property of reason which makes the experience of the object possible as object,—that property therefore, thanks to which things in general are seen and thought, things which stand in relation to one another, and therefore give us a nature and not a chaos—that possesses objective and necessary value for reason, “without distinction as to the condition of the subject.” The individual may possess a uniform soul, or may only imagine that he possesses it : but reason of which Kant furnishes the critique is not the reason of this or that man, but reason as an eternal fact, or rather a fact outside of all time. If in exact science there occurs an important process of sifting out and simplifying what experience had given us, a process by which nature as well as reason is affected, we now see that what science rejects is a subjective element belonging to the Ego ; what on the other hand the object, that is to say, nature requires, in order to be recognised with exactitude,—that possesses an objective value for reason. “Objective” and “subjective,” words otherwise of a doubtful and allegorical sense, by these means acquire a scientifically fixed sense, and so the line of demarcation no longer runs between a so-called subject and a so-called object, but the distinction is made at a point where it is of use to us, that is to say, on the one side within the

boundary of recognition, on the other side within the object itself: reason and nature both possess objective and subjective component parts.

We may call transcendental this perception that the object conditions reason just as reason conditions the object: in other words, it is the perception that recognition and entity arise into being at the same point, and are inseparably connected, so that each receives its functions from the other. If I say all thinking is relation, then I have in the same breath said, all entity is relation, and vice versa. At the same time thinking and entity are in no sense identical: indeed, from this point of view such an idea is utterly senseless, since it first requires the combination of a duality. Goethe, the eminent disciple of Kant, gave utterance to this in a saying as simple as it was deep: "Everything that is in the subject is in the object, and more besides. Everything which is in the object is in the subject, and more besides" ⁷⁸ (W.A. 2nd part, II, 162). The words object and subject might give rise to psychological misunderstandings: but if we replace them by world and reason, and say, everything which is in reason is in the world and more besides; everything which is in the world is in reason and more besides,—then you will have in Goethe's saying a philosophically objective expression for the transcendental relation with which we are dealing. The world mirrors itself in reason, and is fashioned into a nature, but there remains over and above unfashioned matter enough, which in order to attain exact science we have been compelled to exclude: reason mirrors itself in the world and becomes conscious of itself as Ego: but Kant's analysis has shown what an important part of our world-image is contributed by reason, without the possibility of any corroboration beyond the necessity for this same reason. To this again is added freedom. These views are transcendental.

I have had to spend time and trouble in the attempt as fully as possible to explain this negation—Kant's philosophy is not psychology: for it touches the starting-point of his whole order of thought, and has been none the less left almost universally ignored or misunderstood: but whoever misinterprets him on this point must of necessity misunderstand him from Alpha to Omega.⁷⁹

One last comprehensive definition.

Transcendental philosophy is the general conception by critical observation in conjunction with hypothetical architectonics of the complicated system of the combinations which reciprocally condition one another. It does not touch special men and special things; it is not biological: it is not historical: it differs entirely from logic (cf. R.V. 61); neither is it speculative and dogmatic; least of all is it psychological. It only establishes scientifically and firmly those objective conditions without which there could be no world and no reason, and consequently also no recognition. And in doing this it erects everywhere the true defining landmarks and tears down those that are false and conventional.

* * * * *

I undertook to investigate Kant's matter as a question of style; so far as theoretical reason is concerned I think that this purpose has been adequately fulfilled: by means of positive analyses of its contents, supplemented by negative delimitations, we have arrived at a more and more precise characterisation of the domain of transcendental philosophy. The domain of transcendental philosophy has characterised itself more and more precisely. For this we have to thank Kant's personality. One last task remains before us; the endeavour to extend the investigation to practical reason, that is to say, to seek for an answer to the question: how does Kant fashion

his matter so as to arrive at final scientific results as to freedom, moral law, God and religion ?

That it was practice and not theory which from the outset formed Kant's aim just as it had been Plato's, you already know : that by itself suffices to distinguish him from almost all philosophers : but you also know that it was precisely this passionate impulse to render practical service to humanity, which compelled him to devote the greater part of his life to the theoretical and systematic critique of recognition. This law which compelled Kant, equally binds me in these lectures. Kant desired to be a teacher for the people : in his peaceful self-controlled nature there lay unnoticed, I dare not say hidden,—for all dissimulation lay far from him—a bold revolutionary spirit ; when he attacked his critical work, he summed up his philosophical aims into these words : “ The special intention is the abolition of all pedantry in things which touch the nature of the soul, the future, and the origin of all things ” (Ref. II, 6). The abolition of pedantry, the striking off of the fetters from consciously free, reasonable, practical thought ! that is what he desired. And now precisely in the interests of this release he had to plunge into this deep critique of human reason, he had to watch with such “ pedantic ” exactitude that no loophole should be left open for the evil spirit of our race, ever in ambush insidiously whispering dogmas into our ears, and in that way he himself fell a victim to the Pedants and hair-splitters—the whole guild of them—and that means to misunderstanding, to distortion, to caricature, whilst the living men whom he had in view throughout his life's work only gathered that he was the most difficult, the most inaccessible, the most inconsistent of all thinkers, whom no two professional men explained alike. These are things which begin to give a higher meaning to the word fate. To be wrecked not upon the rock of insufficiency, but on the best that can

be achieved by man : that is the secret of the tragedy of this noble life. For the feeble echo which reached the ears of us laymen—the formula of the categorical imperative, and in some measure also the dark idea that Kant had in his latter days undertaken an official vindication of God, freedom, and immortality, is partly mere phrase, partly the disgusting endeavour to cast contempt upon great life-thoughts. It is and must remain to all eternity impossible to understand a single word of Kant's moral teaching, of his critique of practical reason, unless we have assimilated the fundamental thoughts of his transcendental philosophy, and that can only be attained by the study of the critique of theoretical reason. We may confidently assert that the majority of mankind see nothing more in Kant's categorical imperative than a sort of drill sergeant's lesson,—obey without budging. That was what made the popularity of Schopenhauer's shallow joke, so full of misunderstanding, about "wooden iron," "wooden leg," and the like. Thus it is that we are cut off, separated from Kant. We hold centenaries in his honour, but of his personality, of his philosophy we know little or nothing. It was in order to break this ban that I have felt myself bound to lay all stress upon his theory and the critique of nature ; for it is here that the key to understanding lies : had I only kept the personality in view I should have followed another and an easier road : but the knowledge of the personality should serve as introduction to the work. If the Copernican transformation has taken place, if you have really grasped the thought of the transcendental, then it will be child's play for you to understand Kant's doctrine of freedom, morals, religion, and God, and he himself will be a better guide than any one else could be. What I propose now to bring forward, therefore, as the final conclusion of our labours, will be a mere bird's-eye view. Speaking for myself personally, Kant's school has meant the greatest

influence in my life. Renunciation, which is no lack of courage; religion finally purified from superstition; science, the prerogatives of which are indestructibly established, but which is modestly conscious of its own limits: that is the high school of inmost freedom: here the scales of omnipresent superstition fall from our eyes,—the superstition of history, of the churches, of the philosophies, of the puffed-up vulgar natural history: here we have room to breathe and rest for thought; we learn to be our own masters, we learn not to fear: at last a philosopher is born to us who does not impose upon us with some *non ens*, who wishes to prove nothing that is incapable of proof, and does not hold the marsh of empiricism to be the free open sea; here is natural system, conscious art of comprehension, and therewith a philosophy rounded off and perfected on all sides: it is good to live here! “Everything, even that which is the loftiest,” says Kant (Rel. xii), “grows smaller under the hands of men”: but he has achieved that which is most rare, he has made nothing smaller, neither science, nor religion, nor art, neither law nor commandment, neither nature nor freedom. If he everywhere set up boundaries, he at the same time everywhere pulled down barriers; a boundary guards us against the night of confusion: the removal of barriers opens up a free view into what lies beyond: in this way everything grew and was fashioned under his hand. But these are matters which cannot be communicated, they must be worked up, conquered, experienced; only so far, only so far as the outer threshold, can the helping hand give support.

And now, before starting upon any discussion of practical reason and freedom, we must give some attention to a critical buffer-land. As you saw by our last scheme (p. 258), looked at from the objective standpoint, which is the standpoint which every simple person first adopts,

the Thing and the Ego are opposed to one another. It is true that we have seen in detail that each of these stands in correlation to the other, that is to say, that they are interchangeable. But transcendental philosophy teaches us that we never can take in everything at one glance; we must be one-sided, otherwise we are at a standstill; exact science is the most glorious example of successful one-sidedness; but the man who is worldly-wise must, in distinction to all others, be conscious of his one-sidedness, he must be lord over himself. To this end it will be indispensable that we should ask ourselves how Kant looked upon the Thing and the Ego. Here again it is not my purpose to attempt any technical exposition, but only to indicate the style of this order of thought; whoever stands face to face with style without understanding it, no matter how learned and clever he may be, will never succeed in grasping Kant's thoughts at this critical juncture, whereas the man who is familiar with the style, will find everything in Kant comprehensible in itself.

This excursus forms an indispensable link between the two parts of the lecture. It certainly touches an abstract consideration, because we have Kant alone in view, still, it must be my endeavour to force as clear an expression as possible out of the remotest and most unfamiliar thought of the great philosopher, and I hope that it may be a perspicuous, easily grasped scheme, worthy of being remembered and of further consideration. Here too we at the same time obtain as a contribution to our study of the personality the valuable addition of a deep insight into its workshop.

Among Kant's technical terms it is unquestionably the *Ding an sich*, the Thing in itself, that has achieved the greatest popularity—it is not rare to find it in the comic papers: at the same time we hardly ever find any understanding of what Kant means by it; indeed, it is

impossible to understand it without having previously mastered the conception of the transcendental.

In the first place here again, as is always the case with Kant, it is needful to arrive at as simple a conception as possible. He says, "The idea of doubting the existence of things never entered my mind" (P. § 13 A, III). What countless miles of space lie between this and the usual subtleties of the schools! All the well-known vexed questions of the sensualists, the idealists, the sophists,—how we arrive at conclusions about things by the impressions of the senses, and even how we try to recognise these things—all this interests Kant not one whit; the things are there, to doubt them is an occupation for men with an unpardonable amount of leisure, a game for the philosophical nursery. In fact, either they are the business of mere philosophical dunces, or else they are just wrangling: the "phenomenon" must be the "thing" that we know and which we can alone know; the distinction into phenomena and "things in themselves cannot be admitted in a positive sense," writes Kant (R.V. 311); it only occurs in the critique of recognition on behalf of systematic organisation. Kant waxes wroth over this, and says that it is "a scandal of philosophy and of human reason in general to be obliged to take only upon trust the existence of things outside of ourselves, notwithstanding that we possess the whole material for recognition, even for our inmost senses, and should it occur to any one to doubt that existence not to be able to meet him with any satisfactory proof" (R.V. xxxix); then he says forcibly, "the consciousness of my own existence is at the same a direct consciousness of the existence of other things outside of myself" (R.V. 276). If then the thinkers of all schools are agreed that it is impossible for man directly to perceive things as they are in themselves,—and in this a Condillac agrees with a Shaftesbury, a Locke with a Fichte,—it is character-

istic of Kant that he looks upon the problem set up as idle,—idle at any rate so far as the fundamental transcendental consideration is concerned. He says, "in relation to the reality of outer objects it is just as little necessary for me to come to conclusions, as in the contemplation of the reality of the object of my inner sense (my thoughts)," and he "admits a reality in matter as the phenomenon of a reality, which requires no proof, but is directly perceived" (R.V., v. I, 371). That is why Kant is able to affirm of his system,—"in view of all imaginable experience everything remains just as if I had never started upon this departure from universal opinion" (P. § 13).

This, I take it, must now be plain. The concrete question whether there are "things," and how they are "in reality," as people say, constituted, does not affect us, and we have nothing to do with the well-known man who objected, "throw yourself crosswise over the rails of a railroad, you will soon notice that there are things," since we have in no way deserted this common opinion, and not only admit the existence of bodies, but go still further, for if we were unable to prove it, we should postulate it. The difficulty lies elsewhere: but transcendental philosophy has discovered it.

For transcendental philosophy has shown, as you now know, and as later on you will learn from Kant in all detail, that recognition and the thing recognised are too closely interwoven for it to be possible for them ever to be separated from one another. In this the qualities of the senses play the smallest part. That colour, taste, smell, etc., abandon the thing, and are shown as subjective physiological impressions of the Ego, is the less significant as we are here only dealing with subjective impressions which apart from that may be different in different people. Kant's critique, however, shows the objective in things so exactly conditioned by reason, just

as exactly as the objective in reason is conditioned by things, that, freed from the law of the Ego, as little remains of the Thing as there does of the Ego when it is emancipated from the law of the thing. Thing and Ego cannot in reality be separated from one another; the Ego without any matter for recognitions would be an utterly empty conception; the Thing, unless fashioned in the architectonic unity of a consciousness, could, as thing, have no existence: what remains is the blind conception of a nonentity. And here we have every reason to ask ourselves, what is meant when a philosopher comes and talks of a thing "in itself" which is to possess existence as a thing not correlated to an Ego "in itself," but independent, emancipated from all recognition? That happens quietly and in apparent innocence; but if we once admit it, then every dogma has struck roots. For here is the critical point for all philosophy; here dogmatic materialism and dogmatic spiritualism obtain a foothold,—the sensualistic scepticism of a Hume as well as the logical rationalism of a Fichte. It is at this precise point that transcendental philosophy parts company with every other philosophy: that is why Kant is always on guard and ever returns to the thing "in itself" and the Ego "in itself," for he knows that whoever misunderstands him here can in no direction really grasp his philosophy.

The following observation is obviously of primary importance. There never can be a simple problem for Kant: what are "Things in themselves"? or—treated in a more abstract manner, what is the "Thing in itself"? The transcendentalist can only take the Thing into consideration, if he takes the Ego in addition. This is enough out of their own title to condemn the majority of the learned works upon Kant's "Thing in itself," together with the famous question as to whether Kant admits a Thing "in itself," or a number of Things "in

themselves": manifestly absurd as this question is, it down to the present day occupies the attention of men who are worthy of respect. As a general proposition it is not only more practical, but even philosophically more correct, to speak of Things in the plural: but when we are talking of transcendental combination, it is simpler to describe all nature as a Thing, just as the critique of recognition speaks of "Reason" in the singular, not of a number of single "Reasons." So Kant uses the singular or the plural according to the connection of thoughts; on one occasion he sets at rest a puzzled questioner with the answer, whether singular or plural "is not determined" (N. I, 209). What significance can number have outside of space, time, and the categories of dimension? The only essential, as we have said, is this: the Thing cannot be dealt with apart from the Ego. A Thing "in itself" parted from Reason, or more intelligibly expressed, a Thing impenetrable to Reason, is a No-thought even more than it is a No-thing; not because it is impossible that there should be anything outside of Reason, but because Reason alone possesses the power of fashioning. Even the anti-metaphysical scientific Clifford—certainly one of the most intellectual men of the past century, is compelled to admit, "the universe consists entirely of mind-stuff." "Object" is a conception, not a perception: "The object upon which perceptions are directed, exists only in the understanding" (N. I, 133). Conversely the same holds good of the Ego. In the same section of the *Prolegomena* in which Kant affirms "the reality of bodies" and "the existence of my soul (=the Ego)," he says, "the question whether bodies exist as bodies outside of my thoughts can without hesitation be contradicted in nature," and adds the same in respect of the Ego, "as soul in the sense of empirical psychology," the existence of which in time must equally be denied⁸⁰ (§ 49). It is immaterial whether we here talk

of a Thing or of Nature, of an Ego or a Reason (as collective): Thing-Nature cannot exist without Ego-Reason, and vice versa. That is why Kant rejects in every key of the gamut this question about Things in themselves, when it bears an empirical meaning. "What Things in themselves may be is something that I do not know and do not want to know" (R.V. 332); "the transcendental object (=Thing in itself) is a mere something, of which we should not so much as understand the nature even if some one could explain it to us" (R.V. 333). "We will not even allow it to occur to ourselves to institute an enquiry as to what the objects of our senses are in respect of what they may be in themselves, that is to say, without any reference to our senses" (R.V. I, 380), and so forth *ad infinitum*.

How simply Kant's treatment of this knotty question works itself out! from an empirical point of view there are Things and there are Egos: but as soon as we think more profoundly about the matter we observe that it is impossible to separate Thing and Ego: the Things only exist for me, not in themselves; Egos only exist in relation to Things, not in themselves.

The first thing that strikes us is that the question as to Thing and Ego is in Kant regarded not as a subtlety, but as something simple and universally intelligible. Remember Goethe's saying,—in nature everything is simpler than we can think, but at the same time more intricate than can be understood: that holds good also of every master-intellect and its thoughts, for they are intimately related to nature. It follows that if in respect of this problem of the Thing-Ego we were to content ourselves with this grandly simple fundamental perception, we should have achieved but little: now comes the intricacy, the system which is just as indispensable in the case of human recognition as it is in the study of nature. It is only in these days that the fortifica-

tions against sophistry and dogma are being erected : as we know—against subtlety only subtlety can prevail (p. 179).

If we were to leave it at this, that Thing and Ego are inseparably interwoven, up would jump the monist, the annihilator of all forms, the apostle of chaos. That was what wrecked Plato's glorious but misunderstood world of thought, and Kant was still alive when the most zealous of his pupils, Fichte, was teaching that the non-ego, as he called the Thing, was simply nothing, until at last the empirical monists laid hold of the matter by the sillier end, and affirmed conversely that only the Thing had any existence. But not only the monist, but also the thinkers in other directions would gain a free field for their various non-critical and anti-critical structures ; for it is manifest that all of us, from Sancho Panza to Newton, always do distinguish and must distinguish in practice between Thing and Ego, and therefore we are daily threatened by the danger that,—like Bruno, like Locke, like Schopenhauer, like Helmholtz, like everybody,—we should take as our starting-point a false premiss, and in consequence arrive at a false distinction, unless transcendental criticism should have given us a precise, flawless exposition of the possible conceptions of the Thing and the Ego, and accurately fixed the boundaries of each of them. That is what Kant does.

What I just now hinted at half as a joke, he treats in sober earnest. He postulates the Thing "in itself" and the Ego "in itself." As a matter of fact they cannot be separated ; the Thing is at the same time a thought, and the Ego is at the same time an object ;⁸¹ but what does that matter ? All exact science is ideal. What we need is a method,—a method of thinking, knowing, living,—and that means the fashioning of thought, knowledge, and life. "Transcendental philosophy," says Kant,

"goes in front of and precedes the affirmation of the things thought" (Üg. III, 314), it has therefore in a certain sense a free hand; and now comes the new—the Copernican—proposition: it does not prove the existence of things, it would regard the attempt to do so as senseless—but it sets up the things (or to use the common expression "the" Thing) as a hypothesis. Kant with the utmost possible distinctness declares, "the Thing in itself is not an object given outside of conception, but only the postulate of an ideal conception" (Üg. III, 555). This saying, "only the postulate of an ideal conception," should be graven on our memory. It turns the scale against a whole library about the "Thing in itself." Exactly as the ordinary man cannot dispense with the conceptions Thing and Ego, so does the transcendental system stand in need of them: but Kant justifies his proceeding to himself, whereas the other adopts it quite unconsciously; Kant's conception runs exactly parallel to the "common opinion," and is accordingly un-academic and popular, and yet it absolutely raises the standard of perfectly refined thought. That is what Kant himself says when, in his declaration against Fichte's *Wissenschaftslehre* (doctrine of science), he writes that his transcendental philosophy "is only to be considered from the standpoint of common sense adequately cultivated for purposes of similarly abstract investigations." Here you have the difference: the ordinary man and not a few professors of philosophy,—if it were only in order to father the opinion upon Kant and fasten the blame for it upon him—profess the belief that they must accept the Things in themselves in order to explain the existence of phenomena as the effect of a cause;⁸² Kant, on the contrary, looks upon all explanation as mere chatter; like exact science he has only one aim,—comprehension, and a thing only becomes comprehensible by systematic connection, not by the fiction of a cause.

The Thing "in itself" and the Ego "in itself" are for Kant's critical system of reason what the æther, the atom, and energy are in our physics. All these conceptions are admittedly unthinkable and indeed full of contradictions; their acceptance is arbitrary; the old teachers of religion might have said, the attempt at recognition is a sin: yet these are the weapons with which we conquered. For example, that is how thinking physicists laugh at those enthusiastic German empiricists,—perhaps the queerest sort of visionaries that the world has ever seen,—who have chosen so-called energy for their veiled Goddess, and out of the mouth of this hypostatised personification of mere relations to other relations receive with adoration a so-called philosophy: none the less do these thinking Physicists praise the mighty work of Robert Mayer, and then with all precision draw distinctions between kinetic energy and potential energy, etc. In his system not even the thinking physicist can dispense with this conception of energy, all he desires is that the myth should not become a creed; what should we say to a mathematician who should wish to erect an altar to the *root of minus one*!⁸³ Kant's doctrine of the Thing in itself and the Ego in itself must be considered in the strictest analogy to this hypothetical method of exact science: you have just heard it from his own lips: "not an object, but the position of a thing of thought."

All error about Kant has its roots in the ignorance of this first, initial, fundamental fact. There it is in black and white in a hundred places; there it stands, if we have learnt to see with Kant's eyes, in every pronouncement of Kant's three critiques. A Schopenhauer, for instance, looks upon Kant's Thing "in itself," as a real actual "Thing," as a Thing, an object which he then discovers within himself, revealing it and showing it as the material foundation of a whole philosophy: while others prove in clumsy books that Kant's thing in itself

is not logically consistent, as if forsooth the æther, which, although tough as steel, nevertheless admits bodies to pass through it without friction, corresponded better to the requirements of a formal logic. Again, others believe that they make a great discovery, if they show that Kant's Thing in itself has one meaning in one of his writings and another in another, although he himself was at pains to set forth that the hypothesis of a thing necessarily assumes different meanings of the thing, exactly as there is no available conception of energy, unless we admit different standpoints from which energy is seen in an essentially different, indeed mathematically divergent, significance, except that one energy stands in a system of interchangeability with another, so that this plurality can once more be conceived as unity.

Now that we have fundamentally grasped how far a Thing in itself and an Ego in itself are no more than methods of thinking, merely acceptations, hypotheses, or, as Plato so picturesquely puts it, "springboards for knowledge," you must yet be shortly initiated into the necessarily intricate systematics of such a hypothetical Thing and Ego; otherwise you will not be sufficiently armed against the false prophets. A little attention will suffice to enable me to make my purpose clear.

There is such an actual interchangeability between Thing and Ego, that from the outset it is to be expected that even in the Thing hypothetically separated from the Ego, and in the Ego separated from the Thing, the symmetrical relations will exactly correspond. That is precisely the case. Only it is always easier to speak of the Thing, and that for the reason that in the previous lecture I tried to explain by the allegory of "this side and the other" (p. 518). This Thing thought of as separated from the Ego stands more in the background of mental perspective than the Ego, in which on account

of its closer proximity, all the lines run almost parallel to one another, that is to say, point to infinity, and therefore afford no picture. In a similar way it is much easier to make oneself clear as to the almost perceptible fiction "atom," than as to the almost entirely imaginary fiction "æther." That is the true reason why all the world talks of the Thing in itself, but rarely of its indispensable correlative, the Ego in itself. With this premiss we will first speak of the Thing, and for the present pay no attention to the Ego.

Once more let me take an important saying from Kant's last notes: "transcendental philosophy is, or rather makes, a system at the same time objective and subjective" (Üg. III, 370). You now know exactly what is meant by this objective-subjective and subjective-objective, since we have discussed the matter thoroughly (at p. 253 *seq.*, and p. 288 *seq.*); but it applies not only to the transcendental system as a whole, but repeats itself everywhere, at every stage: whatever you may take into consideration transcendently will split up into an objective and a subjective. If we separate the Thing from the Ego, and in the first place look upon the Thing in itself as the objective of both, this same antithesis will nevertheless once more come to the front, and now of course inside of the Thing. With mathematical precision, as if we were dealing with an optical phenomenon of reflection, there now arise two Things in themselves, the one with objective colouring, the other with subjective colouring. The objectively coloured one is the special, real Thing in itself; that which is subjectively coloured is the so-called "Thing of thought" (in Greek *noumenon*). But if we look firmly at each one of these two, omitting the other altogether, it again resolves itself into two halves, of which the one is objective in relation to the other, while the second is subjective in relation to the first, and so we now have four different Things in themselves.

I will repeat myself in order to be certain that you see the matter clearly: as soon as we have supposed a Thing in itself, we find that we must afford space for two distinctly different conceptions; and if we now consider the matter more deeply and at the same time follow the clue which the transcendental system gives us, we find ourselves compelled for the sake of perfect clearness once again carefully to separate from one another two constituent parts in each single half.

The halving into real Thing and Thing of thought is of far greater importance than the extremely subtle division into four; in the first place we will consider it by itself. It results without more ado out of the fundamental hypothesis of transcendental philosophy, according to which two branches of human recognition have to be accepted,—sensibility and understanding—without the collaboration of which as a general proposition we arrive at no recognition. In every recognition sensibility and understanding both find a place. Now if I wish to arrive at a simple unambiguous Thing “in itself,” at a Thing lying outside of my recognition, I have the choice between two roads, the road of sensibility and the road of understanding: unless I should choose one or the other I should remain caught in the net of conditioned human recognition.

Here, however, is the place to say a few words in more exact explanation of the fundamental hypothesis of Kant’s criticism of recognition, otherwise his analysis of the Thing in itself would remain indistinct.

Kant affirms—as our first lecture showed (I, p. 42)—that the essence of reason cannot be understood unless we accept two branches of recognition, whereas, if only we set up this hypothesis, everything becomes systematically explicable and intelligible. But Kant further on spares no pains in proving that understanding without sensibility can effect nothing, indeed that it is unthink-

able, an empty conception, and that equally sensibility without understanding remains a blind nonentity ;—and so the hypothetical, methodical character of the division into halves is manifest. Not indeed as though we were dealing with a pure invention, with a mere arbitrary house of cards ; that is no more the case here than in the acceptance of matter and æther, even less so. Kant's distinction justifies itself step by step, and is simply the philosophical expression for what every man instinctively thinks for himself : but what is ingenious and masterful in it, is the clear separation, the stroke of a blade, by which that which is organically one is made to appear as two : that is architectonic, that is fashioning by knowledge, method of investigation ; clearness is the work of Man, and it is not for nothing that we talk of making ourselves clear. Out of the transcendental combination of understanding and sensibility recognition arises : that is Kant's hypothesis.

But we must also know exactly what Kant means by these words "sensibility" and "understanding." Under the expression "sensibility" we must not conceive that he means the activities of our senses, feeling, seeing, smelling, hearing. In Kant the word never points in that direction : for he, as we know, never deals with physiology and psychology, but searches after objective reason there where consciousness arises, before there is any question of the affirmation of Things : we must first establish what is phenomenon, what is thinking, what is recognition, what is idea, and so forth : transcendental philosophy is the attempt to find an answer to these questions according to the method of exact science ; it is impossible therefore that the functions of an empirically present body should come into consideration. Far rather is space, to which with certain limitations time is superadded, the one and only form of sensibility in the field of transcendentalism. Whether a reason

receives its impressions through one sense, or five senses, or fifty different senses, is here absolutely immaterial ; for this is a subjective matter. In the word "sensibility" as Kant uses it there is something of allegory ; the allegory is more delicate, more refined than Plato's corresponding allegory of the "Domain of the Visible," but an allegory it is : where Kant aims at precision of expression he uses the word "receptivity," not "sensibility." Receptivity with him implies that in every recognition there is an element of reception which has to be proved ; it is the object which first arouses the subject : in order to be understood Kant calls this sensibility ; which implies that we must imagine this transcendental reception of impressions according to the analogy of impressions by means of the bodily senses. And I must make the same reservation in the case of the expression "understanding." In Kant's system understanding is conceived as "pure," that is to say, as unmixed with sensibility. That is naturally an abstraction, the "position of a thing of thought," and yet not more abstract than the position of an æther to be regarded as separated from matter, and a corresponding matter separated from æther. This is how we have to proceed in exact science : this is the essence of scientific method. We must not for a moment think of our understanding, in the ordinary acceptation of the word, as penetrated by sensibility ; far rather is the word "understanding" a mere sign-post : where Kant wishes to speak exactly he uses the word "spontaneity." In all recognition there is not only a "receiving," but also a creating ; it is at the contact of the subject that the object arises. That is therefore the exact meaning of the pronouncement that it is out of the transcendental combination of understanding and sensibility that recognition arises.

I am almost ashamed of myself for laying, at the very last stage of our study, such strong emphasis on some-

thing so self-evident. Still, a look round will perhaps fill you with astonishment to find understanding and sensibility treated almost everywhere, even by the most boasted exponents of Kant, not transcendently but empirically and psychologically: in that way Kant's philosophy is turned into an insufferably confused gibberish: to sweep it clean is the most that can be done. At the head of these heretics stands no less a man than Schopenhauer. Over and over again he says of Kant's philosophy that it is "a critique of the functions of the brain"—certainly the most false of all the falsehoods that have been uttered about Kant, and at the same time a seductive falsehood, as is everything plausible and easily grasped. The transcendental goes "before" the affirmation of things, whereas the phenomenon, known as brain, is just a product,—a product out of understanding and sensibility, and therefore cannot possibly give us the foundation for a critique of recognition: "Everything contained in a phenomenon is itself phenomenon," says Kant. The fundamental error of this conception appears more strikingly when Schopenhauer is perpetually repeating that space (the form of sensibility) is only subjective, "only depends upon the subject," and so forth, so that at last he sets up the formula, "space exists only in the brain."⁸⁴ This interpretation which Schopenhauer adopts from Fichte and wrongfully ascribes to Kant, is the direct contradiction of all transcendental critique: for the essence of this philosophy is that it comprehends everything at the same time objectively and subjectively. What do we mean when we say that there is in the first place a brain, and then, as a consequence of the activity of this brain, a space? What conception can we form of a brain that should not be in space? We do not carry space in our brain, but we rather conceive to ourselves brains because the space is the given form of our perception. In his attack upon

Eberhard (1st sect., beginning of c.), Kant quotes the latter's words, "space and time have at the same time subjective and objective foundations," with the remark, "here we have precisely my own affirmations . . . my critique affirms this literally and repeatedly." It is true that Kant occasionally says of space (and of time), that it is a "subjective condition," or a "subjective quality of sensibility"—but here it is necessary not to lose sight of the qualifying words, "of sensibility" (e.g. R.V. 42); there again inside of sensibility, that is to say, "receptivity," the distinction is made between the more subjective part of receptivity—the condition of "being affected"—and the more objective part, namely the creation of the impression:⁸⁵ sensibility is just as objective (and just as subjective) as the understanding, and Kant never wearies of bringing forward the objective reality of space. This organic breaking up into two component parts, which we distinguish as objective and subjective, takes place, as we have said, at every stage, exactly as we can show negative and positive electricity in reciprocal action out of the greatest complex of phenomena down to the smallest attainable proceeding of nature. What Kant says is not what Schopenhauer makes of it, namely, that the object is a "phenomenon of the brain,"⁸⁶ but that the objects "as phenomena can only exist in ourselves" (R.V. 59). The words "as phenomena" must not be overlooked: object and subject are always and everywhere hypothetically presumed by Kant in the interests of systematic recognition: but he lays stress upon the point (and therein consists the justification and value of the word "critique"), that the object must in reality stand over against the subject merely as phenomenon, and the subject over against the object only as Law (Plato says *idea*).⁸⁷ If in common parlance we talk of phenomenon and Thing as antitheses, and if we did the same in our Bruno lecture (p. 429 *seq.*),

you must now understand that this was only out of regard for those not yet schooled in critique: they have to learn that these two conceptions belong to different sorts of recognition; the phenomenon is that which we receive empirically, the Thing is a transcendental hypothesis (of which men were not conscious before Plato and Kant). Whoever has learnt to distinguish sees as anti-thesis, or rather as counterpart of the Thing, not phenomenon, but the Ego, and as counterpart of the phenomenon, not the Thing, but the Law. Phenomenon, even the phenomenon which we call brain, can only exist where combination in harmony with law, that is to say, objective reason, is presumed. When therefore Schopenhauer talks of space in the brain as a sort of epitome of "the great doctrine of the great Kant," he makes a masterly mistake; as a matter of fact he turns Kant's teaching topsy-turvy—neither more nor less! The wide popularity amongst the unlearned, and the seductive charm of such convenient, because uncritical, thinking, made this short digression necessary.

We go back to the Thing "in itself" and know exactly what is meant when criticism maintains that there is not one way of reaching this hypothetical Thing, but two different and equally justifiable roads, that of the understanding and that of sensibility. The phenomenon, that means the thing as I see it, is woven out of understanding and sensibility, out of spontaneity and receptivity: both point to one another and are directed upon one another like light and the eye: any one who dreams of escaping out of the meshes of this web, and arriving at a single unambiguous thing not "as I see it," but "in itself," must make his choice of a road.

The simple-minded man will always answer in the first place, "I choose the road of sensibility, that alone can lead to the Thing." His confidence will not hold out long. For in the first place all the impressions of the

senses, seeing, feeling, etc., have to be brushed away as physiologically subjective, and nothing remains but Ernst Mach's solid lump in space⁸⁸ not conceived by any one sense, but only conceived as extended in space by the common form of all sensibility.⁸⁹ But now, since we have chosen the road of sensibility, all the definitions of the understanding fall away also,—everything, therefore, which indicates and fixes a dimension, a degree, an interchange, a value; for these are all conceptions: the definition of a Thing is not a mere impression received, but is the consequence of comparison and judgment: this is precisely the function of spontaneity, allegorically called understanding. So the Thing "in itself," which we believed ourselves to have reached by this road is an utterly confused conception, neither large nor small, neither unity nor plurality, neither strong nor weak, standing in no relation to anything else:—it were better to call it chaos. Here we see that it is understanding and not sensibility that we have to thank mainly for the conception "Thing"; without understanding we arrive at a true *non ens*, that lies entirely outside of all possible experience. The judgment passed upon this *non ens* has been rendered familiar to you by the lecture on Descartes: "Perceptions without conceptions are blind." And yet as a mere conception of boundary we may turn this same *non ens* to good account.

If we should set out upon the other way, it certainly would at first seem as though we should have made appreciable progress. The Thing of thought (*Noumenon*) is at any rate a logical consistent thought; in consequence of that it is something determined, not chaotic: it is capable of discussion, whereas of the other thing there remained nothing left but a dumb and so to speak "abstract" feeling: that is why almost all thinkers of the most different schools, when they wish to arrive at a thing "in itself," end by adopting this way of the Thing

of thought : and most of them are content to abide by it. We then speak of intellectual perception, and ever since Aristotle's time there have been plenty of fairy-tales to tell of it : Hegel in especial has had much to say about "supersensual perception." Here then we become acquainted with the value of Kant's purely objective and systematic method. For two-thirds of the *Critique of Pure Reason* are devoted to the flawless proof that spontaneity as a component part of recognition without the co-operation of receptivity, is just as entirely meaningless as sensibility without understanding. To go into this in greater detail would require on your part an amount of knowledge upon which unfortunately I am unable to count : it is here that illusion sends down deep roots, and an accurate study of the chief works of the great thinker is needed in order to extirpate them : I will only bring forward one proposition which forms the corner stone of the critical structure, and which will afford you, even if you should only half understand it, much matter for fruitful thought. In the passage in question, after having shown in detail that apart from the application to given ("given" !) perceptions of the senses the conceptions of the understanding possess no importance, Kant concludes with the words, "sensibility gives reality to understanding whilst at the same time it restricts it" (R.V. 187) : in plain language,—sensibility makes understanding a reality, while at the same time it shows its limitation within that which is given by the senses. Rationalism and Panlogic, which were discussed in the Bruno lecture, are by these means shown to be objectless. If by persistent attention you succeed in obtaining as pure a conception of understanding as you did of sensibility,—that is to say, without any recourse to phenomenon,—you will discover that you are left with nothing but "a mere empty logical form" (R.V. 346). If the real Thing revealed itself as chaos,—the Thing of thought is a mere phantom scheme

and nothing more. The characterisation of this we learnt from the Descartes lecture: "Thoughts without contents are empty."

We have thus arrived at a conception sufficing our purpose, and one that is at any rate as perceptible as is possible in considering such abstract questions. Of the two main kinds of the Thing "in itself" the one is blind perception without conception, the other empty thought without contents: the first is the real Thing, the second is the "Thing of thought."

You may possibly be disappointed to see so little result from all this. And yet this little is full of value. For in the perfectly clear and exhaustive critique of all possible conceptions of so-called "Things in themselves" lies the only safeguard against all Dogmatism. To take one single but very impressive example, every dogma of a creation, such as that which has been adopted by Christianity from Judaism, falls to the ground: it shows itself to be senseless—that is to say, if we accept it from a material point of view: for since we neither by the road of understanding nor by the road of sensibility arrive at "Things," but on the one side at a no-thought, and on the other at a no-thing, so all that we call "coming into being" can never be anything more than variation in the phenomenon, never the origin of a Thing: the so-called "nothing" out of which God produced the World, together with its correlative the Thing, loses all positive meaning. Kant holds that if we should be willing to grant even the possibility of an act of creation, all experience, that is to say, experience in the scientific objective sense, would be swept away (cf. R.V. § 251 *seq.*). But besides this the Thing in itself is of great importance within the critical system: for in its various kinds it tends in all directions to an almost perceptible delimitation where otherwise all would remain purely abstract. So, for example, as Kant repeatedly brings forward, the

"Thing of thought," possessing only a negative use, in this peculiar position has the great value of "limiting the encroachment of sensibility." You saw a while ago how pitifully this sensibility with all its confidence and self-consciousness was wrecked when it trusted its own powers: in the conception of the Thing of thought we, as it were, embody all the far-reaching critical considerations which set forth the nullity of the common acceptance of a Thing in itself of the senses, and so even if the Thing of thought should only serve negatively, we may yet say with Kant, "it is for all that not an arbitrary invention, but is connected with the limitation of sensibility" (R.V. 311). In the same way the real Thing is connected with the limitation of the understanding. Here we have, as it were, two warning allegories: if we stand in the shadow of the one we are faced by the threatening image of the other.

The importance of this "conception of boundary" as Kant calls the Thing "in itself," however, reaches further. Specially it serves to confine empiricism within bounds. For as Kant picturesquely expresses himself, this investigation of the conception of a Thing in itself with its negative result creates so to speak "an empty space" all round empiricism (R.V. 315). The so widespread delusion that empirical experience is potentially unlimited,—that the world of phenomena girdles the whole sum of our life and recognition,—combined with the simple assumption of the majority of investigators of nature that we should arrive at an explanation as to the essence of things if only the enquiries into nature were pushed far enough:—all this is by these means destroyed for ever. The boundary line of empiricism is drawn with mathematical accuracy: whoever steps over it reaches the empty space of the "Thing in itself." What we call the progress of science, is no violation of the boundaries of empiricism, but only a further dissection of phenomenon (nature) by

a methodically more exact development of receptivity and spontaneity : what we gain here is necessarily always at once subjective and objective : there is no way of escape : exact science (see the Leonardo lecture) leads in the end to mathematical equations without any background,—to motion in empty space : more nearly to the Thing in itself can no man approach : every one who has studied criticism recognises here the boundary pillar, the empty Thing of thought : conception without perception.

There is another conception which at the same time obtains a decisive systematic importance : the boundary itself. * The Thing in itself may be of no more than negative use ; the boundary, on the contrary, which it has taught us to draw, possesses a positive value. It is the place (if I may so express myself) of that mysterious " Third " to which attention was so frequently called in the Plato lecture (see specially p. 162 *seq.*). Later on we shall learn from Kant that between understanding and sensibility (spontaneity and receptivity) there also exists a " Third," the organic central point of recognition, the point where combination takes place, where all phenomenon is eternally arising and eternally vanishing : Kant calls it " transcendental imagination," and shows how it is at the same time spontaneous and receptive⁸⁰. Easier of comprehension is the view that all ideas only have their appointed " place " on the mathematically exact boundary between phenomenon and the empty space of the hypothetical Thing. Here, for example, the idea of metamorphosis with which we dealt in the first lecture remains in suspense. Here too, according to Kant, should the idea " God " remain in suspense for the philosophically educated man, " exactly on the boundary of all permissible employment of reason." So far from being idle, ideas are, on the contrary, as Plato taught for the benefit of men who did not understand him,

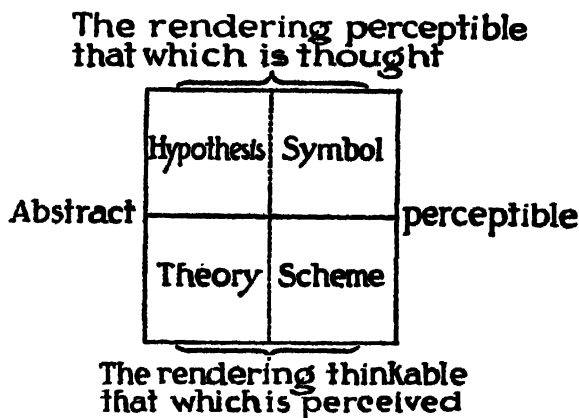
—the only living thing in that recognition which is the essence of our being ; the Thing in itself is empty space, and even the many-coloured world of phenomenon equally resolves itself into an empty space for those who are the most accurate in their empirical contemplation—that is to say, for the exact physicists : but between both, immediately upon the boundary (which is Plato's *μέθεξις* elucidated by Kant), ideas flash up like lightning. And now we need the true definition of the boundary to save us from falling either into the dreary, flat, and wicked mania of the empiricists, which denies all value, all importance, all truth, to ideas which alone bring consistency and meaning into experience,—or into the false-witted, impudent and often criminal delusion of the priests—criminal because it is the robber of conscience,—which teaches that certain ideas are a revelation from the Beyond, and therefore explain what takes place within nature by what takes place outside of her. The systematically exact conception of boundary, that is the various warning allegories of the Thing “in itself,” teach us “on the one side not to extend unlimitedly the recognition of experience to such a degree that there should be nothing left us for recognition, but merely World ; and on the other, not to overstep the boundary of experience and to attempt to judge of things outside of the same as Things in themselves” (P. § 57). Kant's matter, the “style” of which I am at pains to define, would be very correctly described if it were called a system of the definition of boundaries, and his doctrine, if we were to name it, a doctrine of the incomparable importance of border lands.

I hope that these cursory hints will suffice to explain the distinctive importance of the conception of a “Thing in itself” within the Kantian system. Hitherto I have only spoken of theoretical reason ; soon we shall see that the Thing in itself, in precisely the same sense as the mere

position of a "Thing of thought," or of a problematical conception, as Kant often calls it, also renders indispensable services on the boundary between theoretical and practical reason. But as a conclusion to these observations, and at the same time as a resting-place between the last height that we have climbed, and the one which we have still to conquer, I will commend to your attention a small scheme of the Thing in itself which has been of great service to me. I attach no more value to this scheme than to all the others that I have given for your benefit in these lectures: it is on one side a question of *memoria technica*, and on the other an illustration of abstract relations which should stimulate to frequent and ever more profound thinking.

You will perhaps remember the scheme which I proposed in our Descartes lecture as illustrative of the tolerably complicated relations between symbol, hypothesis, scheme and theory. We found symbol and hypothesis to be very nearly related, both of them having for their aim the clearing up of the thing thought, symbol more in conjunction with the senses, hypothesis dealing rather with understanding: scheme and theory, on the other hand, were concerned with bringing thought to bear upon the thing perceived, the scheme again rather as a perceptive thought, theory as an abstract thought. From these considerations there resulted further a relation between symbol and scheme on the one hand, both belonging to the perceptive side, and hypothesis and theory on the other hand, both belonging to the abstract side—and so the following figure arose. A slight, hardly noticeable variation in the direction of thought suffices momentarily to convert hypothesis into symbol and vice versa, and scheme into theory and vice versa. But a transition from scheme to symbol and vice versa, or from hypothesis to theory and vice versa, is also possible, and not seldom takes place so gradually, that it

escapes the observation of the intellect ; but on the other hand the pairs placed diagonally to one another, symbol and theory, scheme and hypothesis, are not capable of directly going over the one to the other.⁹¹



I should like to propose to you a similar scheme for the variants of the Thing in itself. These are conceptions which ought, like that of the transcendental, to become perfectly familiar to us, and so lose all that is strange and startling ; they must take permanent possession of our brain, so that we may find them again in our daily thoughts, and not till then shall we have mastered them ; my scheme should give help in this direction.

You already know the difference between the " Thing of thought " and the real Thing : each of the two, as I said before, when examined more narrowly splits in two in obedience to the distinction upon which I touched briefly at page 307. In the " real " Thing in itself we can attempt to gain a sensual expression for the phenomenon by endeavouring as far as possible not to think at all and treat the " dark lump," which then seems to correspond to feeling, as Thing in itself. In order to reach the goal by this way our sensibility would have to be

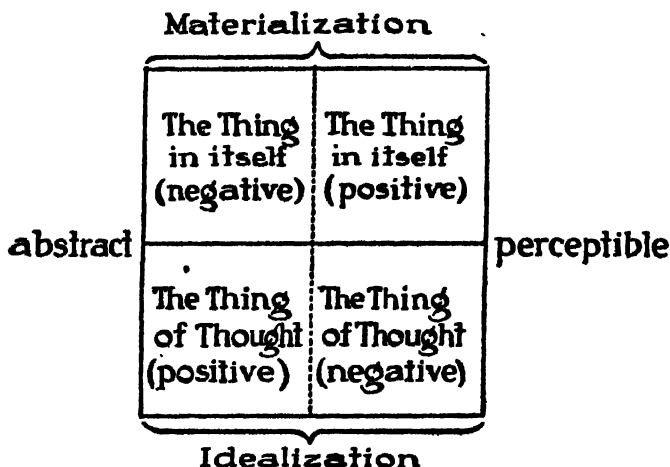
different from what it is : it would have to possess the power of recognition, without conceptions, and so by the mere force of perception ; since every trace of spontaneity of understanding would introduce a subjective unreal element : we will designate this conception as " the positive Thing in itself," since in it sensibility does its utmost to assert itself against understanding.⁹² More delicately thought out is the attempt to gain a sensual expression for the phenomenon by imagining what Kant is wont to call " the transcendental object " : here it is assumed that our present sensibility would suffice to grasp the Thing in itself, if only our understanding were otherwise constituted and adapted more harmoniously to sensibility ; what is here in a sense confusedly imagined is therefore a " something," but a something to which no single category of understanding of which our thoughts are capable is adapted ; consequently, as defined by Kant, " the entirely indefinite thought of something in general " : that is why this conception deserves the name of a " negative " Thing in itself⁹³ (R.V. 522 *seq.*). So much for the halving of the real Thing. Still easier to understand is the halving of the Thing of thought (which Kant calls *Noumenon*). We may say to ourselves that the " Thing in itself " becomes for that reason a Thing of thought, because it is the object of a perception by senses different from ours, in which therefore not space, but some other form necessarily inconceivable to us fashions things : this conception Kant calls the Thing of thought " in the negative understanding " ; the word " negative " gives expression to the negation of our sensibility as characterisation. But we may also assert, and that is just what Hegel does, that there is a non-sensual form of perception, that is to say, that there is a form of understanding which is so constituted that without any intermediary of receptivity it perceives things by mere thought, by mere

spontaneity. This is the sort of understanding which Aristotle ascribes to God: this conception Kant calls the Thing of thought in "the positive understanding," because it proceeds from the affirmation of a non-sensuous perception. The positive Thing of thought, then, and the positive real Thing, are exactly opposed to one another, for in the one case reason will solve the question through understanding without sensibility, and in the other through sensibility without understanding. The one is the extreme of subjectivity, the other the extreme of objectivity. On the other hand, the two negative conceptions stand in a middle domain: the objective real thing receives here a subjective element, and endeavours to grasp the Thing intellectually, even should the help of a more richly equipped understanding be necessary, while in the subjective Thing of thought it is objectivity that prevails, and the goal would seem more attainable, if only our sensibility were constituted a little differently from what it is.

These are the four directions in which it is possible for reason to investigate a Thing in itself. To put all this merely into words will hardly leave any impression on your minds: if on the other hand I draw a diagram and call attention to the analogy, for it is nothing more, with symbol, hypothesis, scheme and theory, I may hope to make what I have said intelligible, and so obtain a handle for further reflection. Here is my scheme of the "Thing in itself."

Such a figure offers many advantages. You see at a glance that an entirely abstract Thing of thought must have a positive colour, whereas one that clings to perception and yet cannot represent this perception, necessarily receives a negative tinge; the abstract here leans towards the perceptible, which, in spite of that, it contradicts. The converse naturally holds good of the real Thing; for Kant's "transcendental object" (in my diagram the

negative Thing in itself) arises out of the assumption that out of the same "data of the senses" an understanding differing from that of the present organisation should thoroughly grasp the true thing (R.V. I, 250). Just as our sensibility was denied above, so is our understanding denied here, and the negative real Thing is the



exact counterpart of the negative Thing of thought. On the other hand, this negative real Thing shows itself to be so far related to the positive Thing of thought, as both are the assumption of a different understanding from ours, whereas the assumption of a sensibility differing from ours is common to the positive real Thing and to the negative Thing of thought. A single glance will moreover show you that the two positive and the two negative conceptions, standing as they do diagonally to one another are not related, and are without any direct connection. All that, and much more besides, is shown by the simple scheme which I will leave it to you to think out. On the other hand, in Kant, the reader who has had no previous training easily becomes confused. A chapter like that about *Phenomena and Noumena* has become a veritable

asses' bridge. For Kant, who for years lived in these conceptions, never considered how strange they would be to others. For example, when he speaks of the Thing in itself in general, he makes no distinction between real Thing and Thing of thought: but all of a sudden he looks more closely into the circle of conception, and then we read of the Thing in itself that "it cannot be called *Noumenon*": or else he remarks that the Thing in itself is only "of negative use." That, as you have seen, holds good universally: immediately after that, however, he speaks of the "negative" and "positive" conception of the Thing of thought, which refers to the distinction not only inside the Thing in itself, but specially inside the *Noumenon*. For this reason the question of the Thing in itself remains impenetrably obscure to most people. Not even Kant's important contrast of the transcendental object (the negative Thing in itself) and the negative Thing of thought, attains the purpose which he had in view, and which is indispensable for a full understanding, since these two conceptions are those that rule in theoretical reason, whereas the positive fictions only attain real importance in practical reason. Briefly, I think that this scheme will prove useful.

We should now be ripe for the consideration of the "Ego in itself." Still, I should be putting your patience to a severe test if I should wish to repeat all that I have said about the "Thing in itself" in treating of its counterpart the "Ego in itself": it must suffice to say that all that I have advanced in the case of the Thing may be applied, *mutatis mutandis*, to the Ego in itself: phenomenon considered as Thing stands in "opposite relation" to phenomenon considered as Ego (R.V. 236); the whole difference consists in the fact that the objective standpoint now turns into the subjective standpoint, whereby everything becomes more difficult for thought and therefore for expression in words. That is why

Kant mostly, but not always, speaks simply of "Thing in itself," and in this general expression includes also the "Ego in itself." You will easily, without help from me, obtain the clue which will enable you to arrive at the necessary results about the Ego in itself, and as they correspond step by step with the results attained in the case of the "Thing in itself," you will in the end arrive at an exactly corresponding scheme, in which you need only substitute Ego for Thing, and "Ego of thought" for "Thing of thought."⁹⁴

The so-called simplicity and indivisibility of the empirical Ego out of which its persistency, unsubstantiality, and immortality proceed, are shown by Kant to be a fallacy. The question of "single or plural?" being senseless, is just as impermissible in the case of the Ego in itself as in that of the Thing in itself. "It is only self-consciousness which brings it forward in such a way that, inasmuch as the subject which thinks, is at the same time its own object, it cannot divide itself (though it may the definitions which are inherent in it): for as considered in regard to itself every object is absolute unity. Nevertheless, if this subject is considered externally as an object of perception, it will of itself show combination in the phenomenon" (R.V. 471). Neither can the persistency of the Ego be set forth empirically: "the being that alone conceives time, and itself in time, cannot claim persistency" (Ref. II, 379). And yet no man will admit that it is possible seriously to dispute the uniformity and persistency of his own self, nor will certain pathological experiences shake his conviction. What is the truth about this uniformity? The answer to this question is one of the weightiest discoveries for which we have to thank Kant's critique: the unity of the Ego is no empirically perceived and demonstrable fact, but a transcendental fact. It belongs to those relations of combination which precede experience and make it

possible (like space and time and the pure conceptions). The unity of the Ego, considered purely theoretically, implies nothing more than the perfected uniformity of the system of reason, and this is the demonstrable correlative, or counterpart, of the unity of the things perceived. The conception of a Thing presupposes an Ego, and vice versa. These two, the unity of the Ego and the unity of the Thing—at every stage from the single Thing to the general conception of all Things, i.e. the conception of Nature—compose the first great transcendental combination inside theoretical reason, which is the foundation of all possible wider recognition; it is incapable of proof, because it is the assumption of all objective knowledge; that is why it possesses an unconditioned yet only formal (fashioning) not material value.

I am not able to treat this in detail, as I should like to do, and perhaps I may not have been entirely convincing: but never mind, we only need here to understand Kant and his conception of the matter at issue. And here it is indispensable that you should firmly impress upon yourselves what I have said: for that is the only way to understand the distinctive fundamental thought of the whole Kantian doctrine of morals, freedom and religion, that is to say, that the Ego, as Ego in itself, is not a something that can be grasped in the hands, something for which we may hunt and snatch at, but simply and only the position of a "thing of thought" analogous to teleology. Whilst Fichte holds that the Thing in itself is not conceived but only felt,⁹⁶ and Schopenhauer in almost the same words teaches us that every man possesses directly "a feeling" of his "being in itself," and that this stimulates a reflection which "leads us over to the Thing in itself,"⁹⁸—Kant tells us that "the Thing in itself is a mere 'Thing of thought' without reality,—the Thing in itself is not an object given."⁹⁷

In one sentence this reflection transports us into the middle of Kant's system of practical reason, as I shall immediately show.

We have seen that the Thing and the Ego are not merely a conception forcing itself mechanically upon every man, and also, as Kant is wont to say, upon the common understanding, but at the same time a most important theoretical thought when it is refined to the hypothetical Thing in itself embracing both Thing and Ego—to be conceived something after the analogy of the irrational numbers in mathematics: it is as Kant once pointedly says, "not an object given, but a task" (R.V. 344); it, as it were, lends subjectivity to the object, and objectivity to the subject, and serves as a limit on all sides; moreover we make use of it for the exact definition of the "place" of ideas. At the same time Kant shows you that this systematically indispensable thought is a mere "a-ny nothing," the position of a "Thing of thought," and so may never be used by man for dogmatic purposes: that leads to the subtle distinction into Thing and *Noumenon*, and to the further and still more subtle positive and negative conception. No matter how we may set before ourselves this conception of the Thing-Ego, if we follow it up to the end, we come to a no-thing or a no-thought: of that you must be convinced. So far then as theoretical reason is concerned this Thing-Ego may be summed up as a "Thing of thought without any reality." But now Kant consummates the great commutation and says, "What may be without reality for theoretical reason may be the whole reality for practical reason." And so the two component parts combine and compose a whole or unit of reason.

We know that, considered transcendently, aim and form in combination make up life, or to draw a wider circle, understanding and sensibility make up experience in general; according to the analogy of this fact, but

considered more comprehensively, you must think of practical reason and theoretical reason,—freedom and nature,—as in combination making up what Kant commonly calls the human soul. The man who denies this combination is forced to sacrifice either freedom or nature; no other choice is open to him; for not to recognise them as opposites,—but to attempt to reconcile them—is, according to Kant, to impose upon oneself and upon others. The more common form of this self-deception is that in which we see all churches and all negative priests—that is materialists—caught, because in none of them is thinking ripe for insight into this division of our essence: the logical teaching of the Church such, for instance, as it imposes as a duty upon all believers, annihilates nature, whose inviolable laws are at every moment being nullified by so-called “miracles”; it follows that all empiricism is in that case mere allegory, whereas we must hold the allegory of religious faith to be empiricism; the exact converse of this simple ecclesiastical conception is the *materialismus communis* of the Büchners the Haeckels, and the rest of them, who sacrifice personality and freedom. More refined is the self-deception of the earnest thinkers, with Schopenhauer as the classical example, since he, as I told you just now, discovers Kant’s Thing in itself, that is the perfect no-thing and the perfect no-thought, in his own breast, and introduces it as the essence of nature. Surely is the Ego, the Âtman as the Indian sage says, at once “the dam which separates the two worlds and the bridge that unites them.” The Ego as human soul is just the “Third,” the *tertium quid*, arising out of the meeting of the two worlds: and yet they are two worlds, and remain two worlds: to perceive that is the beginning of all wisdom. “Never can the two meet,—the self of matter and the self of soul: for the two side by side there is no place.” Clearly an utterance of the highest metaphysical wisdom! What the

Indian understands by "the self of matter" is what Kant calls theoretical reason or nature, "the self of soul" is what he designates by the name of practical reason or freedom. But the Indian solution "one of the two must give way," means an act of despairing renunciation of humanity: whichever you choose it is suicide. To have seen this problem clearly, to have acknowledged it and to have attempted its positive solution is the heroic effort of Kant's philosophy. And since in the meantime we have been taught in detail that every single element of our recognition only arises out of combination, or rather is combination, it cannot be difficult for us, as I think, to grasp this fundamental thought of the Kantian system, namely the hypothetical acceptation that practical reason is a counterpart of theoretical reason, and that consequently the recognitions in the one must stand in exact contraposition to the corresponding recognitions in the other.

We have here obviously come back to the opening of this lecture: what was said there (pp. 169-177) should really be repeated here: we must trust to memory, and I will only call to mind the fact that it makes no essential difference whether we lay stress upon the methods of reason—or upon its ideas, nature and freedom: the outcome is the same: yet it is both more impressive and more pregnant with meaning if we lay stress upon the ideas rather than upon the methods. The "system of recognition" is divided into the two main branches, nature and freedom: this is the simplest and most appropriate expression (Üg. III, 321 H). We now turn to the consideration of freedom.

Will man ever awaken to a state of consciousness about himself and the world? Will he cease to be contented, like the children, with answers which are themselves unfounded, if not directly senseless? Will he, that is to say, follow the road which Plato and Kant show

him, the way of unprejudiced testing of the essence of all experience? If he does, he will discover that it is impossible to refer all questions which arise before him to one safe and all-embracing problem; he will discover that there are two heterogeneous and dissimilar problems, the one theoretical, the other practical, nature and freedom (Üg. III, 418)⁹⁸—problems which he will not succeed in referring either to one another, or to a third and more remote problem. Admitted that unity is given to him in a certain, and indeed absolutely true, sense, this unity remains the point upon which he takes his stand and which he cannot leave even for a moment on behalf of investigation without immediate destruction to himself and everything else.⁹⁹ It is only possible by means of dogmatic affirmation to conjure up the phantom of a uniform single problem—whether it be called Godhead, matter, reason, experience, or what not; criticism smashes all dogmas by showing them up as untenable delusions (cf. Plato lecture, p. 40 *seq.*). That is why Kant says, “by dividing authoritative metaphysics into two chambers . . . the critique of pure reason has furnished a remedy for the despotism of empiricism as well as for the scandal of boundless silly affectations of reason.”¹⁰⁰ So far as the tyranny of dogmatic empiricism is concerned, we men of to-day know what is the meaning of that barbarism murdering intellect, heart and culture; its very first step consists in the denial of the one thing which gives value to life, namely personality; in that it represents the true complement of Socialism, whose vulgar unthinking tyranny strangles every impulse of the individual in its brutal stupid Fist. The terrible dangers of the affectations of reason are known to you from the anarchy, Kant rightly calls it the “anarchical scandal,” of the many churches, monopolists of salvation, warring upon one another: add to this the loss of time, the splitting up and leading astray of thought in conse-

quence of the discord of contradictory metaphysical systems, all of them of necessity untenable,—in which the professors of philosophy alone find profit, for as Kant scornfully remarks, “the savants imagine that everything exists in their behoof.”¹⁰¹

You are now in possession of the fundamental facts : there are two separate problems of existence, and you know, moreover, that this statement, this undeniably requisite and regulative “division into two chambers,” does not possess the mere value of a learned speculation, but is the war-cry in the battle waged for the liberation of the human intellect out of the power of its enemies, who are not, as it were, here and there gagging and duping it, but are planted all round it, so that it is almost always falling from one tyranny into another, and now at the beginning of our much vaunted twentieth century is perhaps more cruelly threatened than ever. Do not let yourselves be led astray by cheap phrases about progress and the like such as are the fashion nowadays. Just as the free Roman commonwealth, at the moment when it seemed to have reached the zenith of its power and domination of the world, fell a sacrifice to the contests between its financiers and its slaves, crushed and annihilated between those despisers of all freedom and all human dignity,—so does the empire of intellect raised by the Teuton, the first systematic attempt to make and educate a really free, inwardly free, race, stand surrounded by enemies rich in power and far too rich in slavish disposition. On the one hand a Church of Rome gaining in strength, which already stretches out its hand to our schools in order to inoculate the pure minds of the children for ever with her poison destructive of all freedom, supported moreover by Catholics of the second degree, that is to say protestants, who no longer protest, but bend and bow, and imitate Rome as well as a cruelly crippled inconsistency will allow ;—and on the

other side a so-called empirically scientific philosophy which has fallen away further back than Thales in the conception and apprehension of the problem of existence, a philosophy which is nominally empirical but solves everything in abstractions and hollow balderdash,—believes firmly in that splendidly bold paradox of mathematical physics that the world is nothing more than motion in empty space,—robs us of form and personality, and of the only redeeming thought of freedom,—and in us men, the descendants of Homer, Leonardo, Yadjnavalkya and the prophets, sees nothing more than “educated turnspits” in empty space (p. 180). Such is the state of things in the life-giving centre of Western Europe. All round is a swarming population of tartarised Russians, a lovable people richly gifted though brought up and emasculated in the most contemptible superstition, in un-freedom and ignorance, destroying with the sure instinct of slaves every racial element that had up to the present given it strength and importance: far away across the world the busy soul-less yellow race: the dreaming, weakly mongrels of Oceania and South America: finally the millions of the blacks poverty-stricken in intellect, bestially inclined, who are even now arming for the war of races in which there will be no quarter given. The man who with an open eye looks round the world to-day, a century after Kant’s death, will shudder to the very marrow of his bones. No danger from outside would be invincible if we true men of Northern Europe, not contaminated by the slavish blood of Syria and Carthagina, the *homines Europæi* of Linnæus (Teutons if we only understand how to conceive this word with sufficient large-heartedness)—no danger from outside need be feared if we only had the courage to stand united and strong in the possession and in the consciousness of a freedom won, never to be lost. No power is so strong as freedom. For in freedom there is

superiority of intellect and of morality added to that of nature. In freedom man lifts himself above nature: he masters it, he masters it precisely at that point where it is the most difficult to master it, in himself, and so he becomes Lord of those powers which ensure him from the attacks of every enemy from without. "Nothing," says Schiller, "can hurt an intellect but what robs it of freedom." But I repeat, what do we see here on the hearth of the great champions of the deliverance of the human intellect out of slavery—here where Abelard, and Roger Bacon, and Wycliffe, and Hus, and Leonardo, and Galilei, and Descartes, Locke, Hume, and Kant laboured? Dull, crass materialistic superstition, undermining all human dignity, protected and encouraged by the state, and only qualified by systematic, lifelong imposture and lies, raised to the dignity of middle-class virtue;—should a man have the courage to turn his back upon all this, he will, if his intellectual powers are modest, see the utilitarian Nothing, empty manufacturing life; or if in spite of all he still longs for something in the shape of philosophy, he may see the choking Sahara-dust of an unlimited, formless, aimless, spiritless science, so beggarly-poor in real thought, so void of all creative power, that the honest fellow either shrinks up and withers intellectually in this dreary emptiness, or else, robbed of all illusion, disgusted, indifferent to everything, throws himself for comfort into the arms of the first ecclesiastical sect that is at hand.

Why should I rush so violently into our peaceful, for the most part apparently harmless, study of thought, with a more than bitter review of our times and of the future with which we are threatened? It is because I desire to call attention with all stress to a fact that is very near to us, though unfortunately observed by few people, namely, that thinking can only be set free by thinking. Our fate, the fate of so-called men of culture,

will depend upon whether we pull ourselves together for thinking or not. You remember Kant's fine saying, "to rescue freedom" (p. 180); well, then, it is only by thinking that freedom can be preserved. These lectures were not intended to stimulate speculation, but deeds. Kant does not philosophise under the motto, *l'art pour l'art*, but as I briefly pointed out at the outset of to-day's remarks, in order that "a Kingdom should be set up which is not in existence, but which might become a reality did we only know what to do and what to leave undone." That is why this thinker has such a passionate attraction for me: that is why I am myself passionately urged on to lead you to him. Everything is at stake, and when I say everything I mean the dignity of man: for what value would life have without it? Every so-called progress of civilisation puts new weapons into the hands of the suppressors of the dignity of man. We have more or less knowledge of the events of some sixty centuries—none has furnished such powerful tools for the blunting and oppression of countless human beings as the century of the press and of machinery. Everything tends to make us less able to see and less able to think. The artisan is, in spite of all delusive appearances, a poor creature in comparison with the peasant: the latter has grown up with living nature which is daily teaching him new truths, so that he learns to judge, slowly indeed, but none the less keenly and wisely and appropriately, that is to say, judges of those things which affect his interests: the artisan, on the other hand, is torn away from all connection with nature, which teaches men without their being conscious of it, and has no time to make up for what is lost in that direction, by artificial culture: we must moreover reckon with the intellectually deadly monotony of his craft and its absolute aimlessness. That is why, even apart from all the known physical disadvantages which cannot but affect the intellect, but

which it should be possible to counteract, the workman is altogether barren of judgment: every man who is bidding for power can do what he chooses with him. There are at the present day in Germany millions of such craftsmen under the thrall of a handful of Jews, who find their amusement and their advantage in undermining the state which has been built up by the work and pains of centuries: excommunication has been long ago introduced within the faction against every man who dares to have an opinion of his own. To-morrow the same men will obey Rome, or any other tyrant, without a word. "Already these men have made themselves semi-slaves to their trade combinations," says the free-thinker Herbert Spencer, in his last essay on the so-called "organised workers," "and with the further progress of imperialism, rebarbarisation and regimentation, their semi-slavery will end in complete slavery, a state which they will fully deserve."¹⁰² These people may become just as fatal an influence in our kingdom of intellectual freedom, as the slaves were in the ancient Roman state of political freedom. A hundred years ago no less a man than Goethe foresaw with unfailing judgment what the press must be, and what it must become. "The good which it can promote," he says, "must soon be swallowed up by the mediocre and the bad"; that is why he calls the essence of journalism "a deadly poison," which "brings to the masses a sort of half-culture" while it annihilates true culture. What is above all annihilated by the press is the faculty of thinking and judging independently. Certainly ninety per cent of educated men now read nothing but newspapers, and thus weaken their powers of observation and of fixing their thoughts steadily upon a fixed aim, to such an extent that they no longer have the power to read a book even should they for once try to do so. There are many other factors of our life which are working in the same sense, for instance,

the extreme specialisation of every activity, and the exhausting claims set up by the chosen profession. We lose the time for thinking, the joy that there is in thinking, and the capacity for thinking. How often does one hear, "Oh! pray don't talk of philosophy: I have never understood a word of it; it has no object, and only confuses one." What the satirist Liscov two hundred years ago ironically put in the mouth of his "elender Skribent" (miserable Scribe), "thinking attacks the head, takes up much time and, if we are to tell the truth, is of no use," is to-day the conviction of many of our best men. That is to say, they are ready enough to think, but not to think about thought, not to philosophise. Even gifted brains decline to believe that it is necessary, or at any rate useful, to test and scientifically to establish the credentials, the range, the importance of our powers of thought, of the powers which we continuously and everywhere bring into play. What is our whole science, if not a process of thinking upon that which has been perceived? What are our religions, if not thoughts upon the significance of life and death? We are men because, and in so far as, we possess reason: but what is this same reason? This is a question which is held to be idle! an incredible blindness! a blindness which will cost us our whole culture, what we already possess, which ought to flourish yet incomparably richer,—our freedom, our dignity as men. For, I say again, it is only by thinking that thinking is set free. Thinking set free is freedom; for freedom is an idea; freedom cannot be given, it must be gained,—gained as an inner personal achievement, that is to say, brought to us as consciousness. It is on this ground that Kant, the bitter opponent of all academical metaphysics, the man who alone keeps in view the practical needs of all, says, "Metaphysics are the perfecting of all human reason"—for "upon them depends the true and lasting weal of the human race."¹⁰³

Socrates held that moral sense is recognition : but Plato felt it his duty materially to soften the roughness of this formula : still, it nevertheless contains a great truth ; for, as Kant will show you, without freedom there is no genuine, entirely pure, true moral sense, and we only become free by the redeeming work of the highest power that lies within us,—by thought. There is a passage (pr. V, preface) where Kant says that he considers wisdom and holiness as “fundamentally and objectively one and the same.” Our whole human existence is thinking, whether we will or no : Whatever else we may choose to distinguish in our being,—perception, will, sentiment, feeling, and what not,—one thing remains certain, it is only within the four sides of thinking that each of them comes into perspective, and that we become conscious of it. It is time, high time, that the much abused rationalism, the veneration for reason, should once again come into blossom. It must be in a different sense from that in which the Gauls of the eighteenth century understood it, and with a different object in view from that which the German professor of the nineteenth century ascribed to it ; it must be in the sense and with the object in view of Kant. “ Oh ! friends of the human race and of that which is most sacred to it ! ” exclaims our sage, “ accept whatever after careful and honest testing seems to you most worthy of belief, whether it be facts or arguments : only do not rob reason of what makes it the highest earthly possession, namely, the privilege of being the last touchstone of truth. Otherwise, unworthy of this freedom, you will surely forfeit it.”¹⁰⁴

It is perhaps lucky that with few exceptions Kant has hitherto been so seldom understood as regards his true aim and his true achievements : were it otherwise there would have been great haste to rob us of him for ever. Kant would have been entitled just as much as Luther to

utter the proud saying, "Here I stand: I can no otherwise"; for as you must have seen from my sketch, whoever accepts this standpoint of Kant's as his creed is surrounded by enemies. He has all the mighty ones of the world against him. In the work of this man lies the greatest revolutionary power of the world's history. He created it in his peaceful, out-of-the-way corner: he housed it as men store explosives in the neighbourhood of crowded cities, carefully, inaccessibly, in some place difficult to reach, in a well-guarded dark tower: here too he showed his wisdom, he was a pattern of pious earnestness. But now the hour has struck when in our direst need we want this force not merely in the laboratories of a dozen learned men, but outside, for battle—for the battle of redemption. It is a question, as Kant said above, of "the most sacred possessions," not in any ordinary trivial sense of these words, not as they are used by Princes, Priests, and Philistines, but the reverse: the point is to achieve that freedom, and with it that sense of morality which we have not got, and which we never can attain under the domination of our modern churches and antichurches: for as Kant has taught us, "Freedom is the work of man." What we have to do is to introduce into the consciousness of mankind in general pure religion and the true conception of God, as these are possessed or divined by the best and most important men among us. Manifestly the masses are incapable of thinking like the few most eminent men who stand upon the conquered pinnacles of human thought: yet the gap need not be so wide that the belief of the best should be regarded by the many as sin and folly, whilst the long since discredited historical forgeries are forced upon them as divine truth, and ecclesiastical practices, worthy of naked savages, as a compendium of morality. Such a disturbance of balance can only of necessity lead to moral anarchy; the true most sacred possessions are withheld

from us not in the interest of humanity in general, but far rather in the interest of aboriginal superstition, of ineradicable magicians' delusions,—in the interest of the rule of priestcraft, as well as in the falsely understood interest of an order of Society, which apparently could have no existence outside of lies and systematic imposture. It is our business to-day (to-morrow will be too late) to conquer those possessions against all and several. There is no standing still ; Life is form, and form can only assert itself in motion : that is why standing still is death, the end of all things : our human society must either enter upon the most brutal barbarism which ever prevailed, the barbarism of artificially civilised superstitious races, hostile to nature, debilitated, intellectually poverty-stricken,—as dreamless as so many cattle, or it must, boldly conscious of its aims, prepare for a further step and climb a new stage, a markedly higher stage, of culture. Kant shows the way.

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This short digression was indispensable, because we have now reached the point where the cruellest confusion as to Kant prevails. As experience shows there are two classes amongst Kant's readers ; each is wont to misinterpret Kant's doctrine of practical reason after its own fashion.

A tolerably numerous and very influential class of readers—clerics and professors—has neither the leisure nor the inclination which would suffice to enable it to assimilate Kant's *Critique of Pure Reason* ; these men rush upon the works on practical reason, on the foundation of moral metaphysics, etc., works which seem more nearly bound up with their own interests and calling. In itself this tendency is not unsympathetic, and you now know exactly how far it consciously or unconsciously militates against Kant's true purpose. But it is and

always must be impossible to understand Kant's conception of morals, freedom, religion and God, unless we know upon what his whole order of thought is based,—the critical enquiry into and conception of the transcendental, and this is unthinkable without a searching study of the doctrine of theoretical reason. That is why Kant himself, taught by the experience of numberless misunderstandings, gives us this warning in the preface to his *Critique of Practical Reason* ; “ those who have been discouraged in view of the first investigation, and so have not thought it worth while to acquire this knowledge, cannot attain the second stage.”

It is to these people that we owe the quite grotesque misapprehension as to the so-called “ categorical imperative,” which has become so universal that it needs some degree of simple self-assurance to wish to eradicate it. We hear from all sides the fable of the “ strict moral law ” preached by the old man in the gloomy north : some admire him for it, bring out the categorical imperative at distributions of prizes and on other patriotic occasions, praise Kant for it as a true Prussian who has propagated the stiffest militarism in the inmost recesses of the heart, and as it were buckled up the very soul in a soldier's stock,—whilst others—more sentimentally strung natures,—declare themselves unable to put up with such inexorable doctrines, and refuse to travel on the path of duty unless their hearts should be softened by a little sympathy, attracted by a little love, and all else that makes up the desires of weak mortals. The only pity of it all is that never did Kant even dream of bequeathing a moral law, strict or mild !

By the technical conception “ categorical imperative,” Kant does not indicate a system of morals, but a fact of reason. Within the domain of theoretical reason—namely, in nature—there is no such thing as “ must,”—no word of command ; in such a connection the conception

is entirely senseless : but on the other hand every man knows what is meant by " must " in the sense of duty, for it belongs to the essence of reason. That a " must " exists is precisely the fundamental conception of practical reason ; that is where it distinguishes itself from theoretical reason, and it is through it that the conceptions " freedom " and " personality " gain substance and significance. This " must " is occasionally used by Kant in connection with the academic expression " imperative." But there are many " imperatives " which correspond to the different stages of the " must " : for this reason it is necessary to distinguish between the various imperatives by more closely drawn designations. There is a conditioned " must," a " must " that means just so much as " it were well and profitable that you should do this," or " it would tend to your happiness," or " it would be very practical " ; here again nature does not offer the slightest analogy : this description of " must " is what Kant, in connection with that of certain logical judgments, calls a " hypothetical " imperative, and yet again distinguishes between a " problematical " and an " assertive " stage within this hypothetical imperative. The one is the " must " of fitness, the other the " must " of happiness. Here we have at once two different imperatives : but that does not complete the dissection of " must." For there is also an unconditioned " must," a " must " which often does not imply action as a consequence, but of which all reason clearly recognises the commanding force : and this " must," this fact present in reason, Kant (again in connection with the known appellation of a compelling logical judgment) calls the categorical " must," or the " categorical imperative," but sometimes also more simply alludes to as the " unconditioned practical law." Kant proclaims no law,—thou shalt unconditionally do this and that : he only maintains, " in all reason I see the conception of an uncon-

ditional 'must' side by side with the conception of a graduated conditional 'must': and just as Newton referred the discovered facts and laws of the cosmic motions to a formula,—a fact of the weightiest range, since it fixes the human intellect upon the essential idea which binds together into unity a plurality which would otherwise be boundless, so Kant seeks to discover the formula which for all reason sums up this unconditioned "must," apart from those special dealings which in one place or in another, in earlier or later times, in these or those circumstances of time and space, have deserved the epithet good. It is therefore a pitiful misunderstanding, if we affirm that Kant wished to introduce a new system of morals, and to that end set up the principle of the imperative of duty; there is a passage in which he enters a protest against this misapprehension. "Who would wish to introduce a new principle of all morality"? as if up to his time in matters of duty the world had been ignorant or universally in error." Obviously irritated, he puts the question to one of his critics (pr. V, preface). In the first place, Kant cares not a jot what the "must" may be so long as there is a "must." Either "must" is nothing, a word, an empty sentimentality of old women and ambitious priests, or else if it be a fact of reason it must be referable to a clear and exact conception of universal value, and if once this conception has been rightly established, there will without doubt arise out of it much that will be valuable for a judgment upon the different doctrines of morals, especially for the distinction between what is purely moral therein, and that which is only assumed, or even directly immoral. Kant's categorical imperative (of course considered in relation to the various hypothetical imperatives) is therefore in the first place nothing more and nothing less than an attempt to formulate scientifically and precisely a fundamental fact of all reason, and in the next place, if the task be con-

sidered as rightly solved, indirectly a criterion for the comparative valuation of the different doctrines and actions judged by the standard of pure morality, that is to say, of the unconditioned "must."

We shall soon have to return to the imperative and its significance; but I was compelled to warn you against this caricature which, stuffed up with all sorts of wise historical reflections of sanctimonious education about Kant, has done much to prevent his thoughts from being understood.

And now for the second class of readers, those with a philosophical turn of mind. Instead of these readers being led gradually by painstaking cultivation and guidance to the comprehension of the most profound and fruitful thoughts that were ever imagined by the rarest of men, they are almost without exception in their early youth, at a time when it is not yet possible for them to take a lofty view of the spirit of humanity, ruined beyond repair by the teaching in the high schools and the expositions of handbooks; they can never afterwards grow up to that which is truly great, to real wisdom: rather have they fallen irretrievably into the clutches of that affectation which was so hated by Kant, "the chicane of a falsely instructed reason." Of course even these men are inspired by Kant with a lively interest; how could it be otherwise with clever brains full of learning? A boundless Kantian literature, thousands and thousands of books, pamphlets, and essays bear witness to this interest (pp. 14, 15). It needs a rare, indeed a monumental narrow-mindedness, bound up with a touching ignorance, to lay aside Kant for ever at the age of twenty years, like Herbert Spencer, after turning over the leaves of a few pages of the *Pure Reason*, because of feeling bound at once and absolutely to reject the acceptation that the conception of space contains a deep problem. Those Germans who suffer from a similar poverty of thought

seldom busy themselves with philosophy.¹⁰⁵ But what is the result with the more gifted of those who busy themselves with Kant? That is what is so lamentable. "The mischievous side of science for mankind is specially this," says Kant, "that by far the greater number of those who wish to distinguish themselves by it, do nothing towards the improvement of the understanding, but only turn it upside down, not to mention the fact that often science is the mere tool of vanity."¹⁰⁶ Truly has this saying proved itself in the "science" which has tacked itself on to his powerful life's-work for the instruction and liberation of mankind. We may admit that the intentions were for the most part good, the services rendered here and there pre-eminent, and yet as a whole this science has wrought evil, and has contributed to the "turning upside down of the understanding."¹⁰⁷ And how did this come about? Why is such a gigantic expenditure of intellectual force to be looked upon purely as vain—where indeed it is not mischievous? In the first place, because these men with their philosophical faculties have either thrown themselves exclusively upon Kant's critique of theoretical reason, so that the more important half of his philosophy remained hidden to them,—and this has been mostly the case; or else they looked upon, investigated, and judged the *Critique of Practical Reason* quite one-sidedly from the theoretical standpoint. How can Kant be rightly understood, when neither the motive power which urges him on, nor his immutably fixed starting-point, nor his goal, are taken into consideration?—indeed, when as is often the case, they remain entirely unknown?¹⁰⁸ And yet Kant spoke out clearly enough about it. "If there be a science of which man really stands in need, it is that which I teach:—suitably to fill the place which has been allotted to man in creation, and by which he may learn what we must be in order to be men."¹⁰⁹ Here we have it in black and

white, written, it is true, on mere scraps of paper which were found after Kant's death, and yet all the more valuable as being an unspoken creed: "I teach what we must be in order to be men." Here sealed for all time you have the fact, which I trust has become more and more clear in the course of these lectures. Kant's interest is and always has been a practical one; applies to all mankind; all metaphysical speculation, all endlessly subtle investigation of the essence of reason and of recognition is not undertaken on behalf of the rabble of sophists; but, on the contrary, his aim has been to free mankind once for all from the imposture which has weighed upon us so long, and at the same time from the crippling domination of all those conceptions and thoughts about unattainable finalities which have been the burthen of our race for millenniums, making us the prey of the most unconscientious and shameless men—indeed, often and in many cases dragging us down below the level of the unreasoning beast.

I hope that I have sufficiently impressed upon you the fact that you have here reached the critical point in this philosophy. Unless you have felt the compelling power of his doctrine of practical reason, you have not really understood Kant's theory of the relation between understanding and sensibility, of the transcendental importance of space and time, of the antinomies and the boundaries of experience and reason. He says himself in the preface to his *Critique of Practical Reason* (which appeared in 1788, and therefore at the zenith of his labours, one year after the 2nd edition of the *Pure Reason*, two years before the *Critique of the Power of Judgment*), that now at last "the connection of the system is observable," "here first of all the riddle of criticism reveals itself," at last the idea of freedom as practical reason shows it, "forms the keystone of the whole structure of a system of pure, even of speculative reason." Most people can in no way

realise this ; yet I hope for better things from you : for you have no doubt clearly apprehended the conception of the transcendental : you know that all understanding presumes a duality, and that it is impossible to understand the entirety of reason, and that means seeing it methodically, unless at the very root of the thing we presuppose two component parts : why should we not follow Kant in calling them the theoretical and the practical ? The name is of no importance—the contrast is everything.

What is it that Kant requires of us here ? What is the nature of this keystone which most men reject, and without which the whole building falls to pieces ?

In theoretical reason we start from plurality and end by arriving at a unity, at the comprehension of nature ; in practical reason the starting-point is a unity, and it is only by proceeding from that unity that we are led to an increasing plurality. Here at once is the contrast.

The one and only fact which underlies all practical reason, is the fact that there a "must" exists.* What "must" be is in the first instance a subordinate question, and whether we obey it or not which is in reality usually the practice, is a completely irrelevant one : in this respect there is room for an endless gradation in the degree in which man recognises or fails to recognise the voice of duty, besides which it must be assumed that man's inner being, like his outward being, must exhibit changes influenced by the surrounding circumstances of space and time. But where there is reason—so Kant maintains—there there is the conception of "must" or duty, or, to adopt the academical expression, "the imperative."¹¹⁰ This conception does not proceed from nature, but is rather in direct antagonism to her, and is destructive to her. That is why every attempt—(I bring this forward at once in order that you may see what is the point at issue)—

every attempt empirically to explain the "must" and with it the moral law,—deducing it from the mechanism of nature, and explaining it by some kind of evolution,—is stillborn, just as stillborn as the thought of a spontaneous generation of life. "Only shallow heads," says Kant, "can refresh themselves with this disgusting jumble of higgledy-piggledy observations and half-sophistical principles" (Gr.). If the conception of nature be scientifically and keenly grasped, then there can be no loophole in this flawless web of conditioned, inevitably necessary, reciprocal action through which any conception of a "must" could be smuggled in. This conception is therefore not nature; it stands altogether outside of all mechanical laws; it creates and founds a kingdom for itself, the kingdom of freedom.

For the existence of freedom follows out of that of "must." Without freedom the conception of "must" would be manifestly senseless. What significance can a commandment, a "shall be," have for me if I am in no wise free to obey it or not to obey it? If in every relation I am mechanically bound on all sides? In that case it would be impossible even to conceive the idea. I would have this specially noted: the conception of "must" without that of freedom would be empty, and as an altogether empty conception could not even be thought. The man who denies freedom denies all duty. And, so we may add as disciples of Kant, we should in that case not be men, not be creatures gifted with reason: for the fact that we can think this conception of "must" is the fundamental fact of our being.

The matter can also be expressed in the following way. Unification, and thereby recognition, always arises by the tying of a knot which reason explains to itself as being the outcome of cause and effect: but it distinguishes a causality arising out of necessity, that is to say, out of necessarily reciprocal action between all things, from

a causality arising out of freedom. So far from the latter being a deduction, a conception in some way arising by corruption out of the former, it is manifestly the more original of the two. Every man is directly conscious of freedom: but it is the conception of nature which corresponds to it, and not the necessary combination with cause and effect as contrast and counterpart. Of course the conception of a cause is a category underlying all understanding; but this works unconsciously from case to case; on the other hand the conception that there is in nature a dominant, inviolable, mechanical causality, is a theoretical thought which presupposes the idea of nature, and only is realised at a very high stage of culture, a thought which indeed has so far not been grasped at all by a not inconsiderable number of our contemporaries. It is therefore far rather the fact of freedom which teaches us to "think" the idea of a nature ruled by necessity, than the converse. Freedom is, as Kant in one passage points out, "unconditioned causality": out of this we arrive at the conception of conditioned causality, that means un-free combination (pr. V, I, I, 3 towards the end).

The fact of freedom then stands upon a thoroughly sure basis. As Kant writes, "the most subtle philosophy is no more able to argue freedom into nonentity than the commonest human reason" (Gr. 3, 6). But what always imperils this indispensable conception is the lack of a transcendental philosophy penetrating us as part of our most intimate selves, for outside of the philosophy of Plato and Kant it is impossible to understand the connection between nature and freedom.

Sooth to say, freedom is in reality just as much a mere idea as nature, an idea of reason. If I called it just now a "fact," I meant no more than I should if I had spoken of nature as an indubitable fact. Taken strictly (cf. p. 637) we have no right to call anything a given fact

except, on the one side, the laws, in other words, a connection of phenomena in accordance with law,—and, on the other side “duty” and its commandments; but out of these there arise such fixed, highly coloured, ineradicable ideas full of relations,—ideas of nature and of freedom,—that no Schiller would dare to taunt a Goethe with the exclamation, “those are no experiences, they are ideas!” The mass of experience is so rich, embracing as it does one-half of our whole matter of experience, that the idea in question acquires an apprehensible reality. That is why we may allow ourselves to speak of freedom as a fact, and to assert that “its reality is capable of being set forth in experience” (Ür., ⁵ 91). Even so it is important to lay stress upon this ideal character of freedom: for it is at this very point that difficulties arise which are for ever being used either to deny the existence of freedom, or to fetter it in chains; nothing less than a complete apprehension of the relations which must exist here can suffice to free the dignity of man from these attacks: my present task is an attempt to lead up to that.

Like all ideas, that of freedom is also in its origin a “transcendent conception,” that is to say, it comes from beyond experience; like many other ideas it has a transcendental use, that is to say, reason draws it over to the hither side of experience, where it serves still further to build up experience (cf. p. 263 *seq.*). If you have learnt, especially through Plato, to see ideas at work everywhere in big and little, so that we should hardly hesitate to define reason shortly as “a power of breeding ideas,” then you have understood at the same time, that the idea is not a matter of the senses, not a thing which can be grasped with the hands—not even mentally—not a thing which can be outlined in space or bounded in time. That was made plain in our first lecture, where the idea of metamorphosis, which at the first blush

seemed to be all experience, all empiricism, as soon as we looked at it more closely slipped through our fingers as an airy vision. Later on, however, in the Plato lecture, you came to perceive that precisely the same thing holds good of such an idea as, let us say, Dog (p. 73). At first it seems perfectly concrete, but when we investigate the matter more closely, it becomes doubtful how narrowly or how widely we may draw the defining circle of such an idea: the naturalist for instance, draws a distinction between true dogs and other dogs, without ever being able to lay down an exact rule as to what constitutes the true or the false nature; whereas the systematic zoologist, under this one conception *canis*, comprises all sorts of beasts which men have never understood under the idea and name of Dog—for example, the jackal, the fox, the wolf, and others. It is a question of an idea of reason,—not of direct experience,—of an idea which binds plurality into unity, and so lays the foundation of the possibility of recognition. These relations then have found an extraordinarily clear expression in Kant's system, in which a distinction is drawn between understanding and reason. The understanding, as it were, creates the object; it does so by gathering up the manifold impressions of the senses into one single thought;—that is the first step in unification: it is out of chaos that phenomena first dawn upon us. In the untold numbers of conceptions of things which have thus arisen, Reason, by means of the formation of ideas, creates syntheses which are ever widening their grasp, thus giving birth to recognition. Reason confines its relations absolutely to understanding, that is to say, to the objects thought of, not to the direct impressions: "it makes for no (isolated) object," but only for the unification of recognitions of the understanding. How endless are the services which Kant's architectonics have rendered for the understanding of our recognition—this method of self-understanding—is something which you

will learn later on from more searching study; for the time we must be content with having distinguished between these two great stages—understanding and reason. Our whole Plato lecture has prepared you for the conception that there must of necessity be an endless series of ideas: it sufficed to show us that there is a continuous swaying backwards and forwards: every idea a genus (*eidos*)—which comprises more narrowly circumscribed ideas as species, and at the same time one single species (idea) within a still more comprehensive idea (p. 44 *seq.*). This belongs to the essence of idea. If in our recognition everything is in general motion (p. 238 *seq.*) then idea is the most delicate, most supple, and so most movable of all the functions of recognition. Here again Kant's methodical limiting method has revealed new points of view, and thereby brought clear order into the host of ideas. Whilst in Plato the "idea of the bed" is mentioned side by side with "the idea of the beautiful" and "the idea of dimension," Kant teaches us to distinguish. In the first place the conceptions of the understanding must not be confused with ideas. They differ at the very outset, they differ in the place of their birth, they differ in their functions. The pure conceptions of the understanding are the categories with which you are acquainted (unity, plurality, reciprocity, etc.), and when they are applied to objects, the principles (dimension, gradation, persistency, etc.): in their origin these are not transcendent, but transcendental, they do not arise from the further side, but from the hither side of experience, they are neither more nor less than Understanding itself viewed in the diversity and the inter-relation of its organs: we may not therefore call such conceptions as dimension, gradation, persistency, necessity, etc., ideas: for these conceptions as transcendental conditions of all possible experience lay down the law for nature, that is to say,

for all phenomena (R.V. 163). Whereas it is to these phenomena, as products, that ideas first refer. The conception of the understanding is absolutely persistent and indisputable: it is of equal rank with space as the inevitable form of all perception, and with time as the uniting link between conception and perception (*v.* 3rd lecture); whereas idea is eminently movable, and its diameter varies like the pupil of the eye under the least change of illumination, and loses or gains in size according to the distance of the object under contemplation. The idea must be taken as analogous to a symbol, the conception of the understanding as analogous to a scheme. This view is, in the domain of theory, perhaps the greatest feat in which Kant excelled Plato. Here we have the first step towards perfect clearness in the doctrine of ideas. For it is no longer a mere word if we now say—ideas belong to reason alone, not to the understanding.

But there is a further distinction that must be made: we do not deal with all this for mere sophistry's sake, but because out of it there will later on come appreciations of practical importance. Kant has in especial shown that inside of ideas there are distinctions, not only as to the relative comprehensions, but essential differences. An idea may be very closely related to empirical phenomena—as in the example "Dog" which we brought forward above, and still more so in Plato's favourite example "Bed." Kant will not hear of these being called ideas: he calls them "conceptions of reason."

To be sure such conceptions are, as I have just shown, in their genesis perfectly distinct from the conceptions of understanding: for the conception of understanding is a law, or if you prefer to call it so, an organ of my personal recognition, whereas the conception of reason, "Dog," assumes given objects—phenomena: yet Kant preers,—whether rightly or wrongly is a question of

practice,—to call these ideas, which are soaked through and through with empiricism, and therefore in the closest way related to the understanding,¹¹¹ conceptions. On the other hand, he wishes to reserve the description “idea” exclusively for a special class of ideas, a class which is at the extreme opposite end of the scale, and for which no empirical proof is available, because it goes beyond all possible experience by the senses.¹¹² For example, he would only allow the description “idea” to Goethe’s doctrine of metamorphosis in so far as it could be shown that no possible experience in time and space could practically agree with it: in spite of that an idea like that of metamorphosis is rooted altogether in perception: it is born of empirical experience and again continues to aim at experience. Kant, however, shows that there exists a special class of ideas which this does not affect, and that these ideas possess properties which belong to them alone, and not to the rest of ideas; these are according to Kant’s terminology the specially genuine ideas. Reason is forced at some point arbitrarily to fix limits to the series of its ideas which are endless, inasmuch as every *eidos* becomes again the idea of a still more comprehensive *eidos*. Understanding sways to and fro in every direction; reason proceeds in fixed lines of direction; understanding only accepts that which is conditioned; reason demands that which is unconditioned: understanding always deals with fragments without beginning and without end: reason insists upon what is flawless and complete in itself. And so it comes to pass that reason creates for itself ideas which are wholly beyond all experience, all power of thought, all possibility of perception, and which yet are to her more alive than all other ideas, because they spring out of the utmost strain of her strength, and promise rest, the rest of that which is finite and perfect.

The idea “God” may serve us as an example of such

a perfectly "ideal idea." Among the different chains of ideas there is one which (if it is not to stretch out into the endless, into the eternally incomplete) leads with compelling force to the conception of an "absolutely necessary being" that encompasses all other beings as cause and as goal, as fundamental condition and as ideal. Here we have, as Kant says, "a requirement of reason" which to all arguments that may be brought forward answers, "I choose that there be a God"! (Pr. V, I, 2, 2, 8). But we must be perfectly clear as to the fact that "reason creates this idea for itself":¹¹³ the understanding affords no guarantee for it. God is not to be found in perception, even though reason often enough introduces Him as idea into that which is perceived (into Nature), and then naturally sees Him everywhere, just as Goethe took his idea of metamorphosis to be experience, until Schiller taught him better. In reality nature is impersonal, unreasoning, cruel, extravagant, hemmed in and bounded on all sides, and therefore necessitous. "Nature," says Kant, "is entirely lacking in what is unconditioned, even in absolute dimension, though the commonest reason requires it."¹¹⁴ Just as little is God to be deduced from the conceptions and judgments of the understanding. For the fact that in the world of phenomenon everything that exists is in its origin connected with what has gone before, does not prove that this is also the case outside and beyond phenomenon: indeed, the antinomy of reason has shown us (p. 68) that, by accepting this, thought comes into conflict with itself: besides which it is a manifestly unpermissible analogical conclusion to argue from a matter of the senses to another matter which is beyond the senses (Ur. § 90). If in spite of that I were to imitate the simplicity of old thinkers, and define God as the "first mover," I should "not in the slightest degree have recognised what God is" (Ur., genl. note). I should

rather have comprised in one senseless word a series of unknown causes. Kant has convincingly laid it down that it is nothing less than audacity to wish to deduce a leading conclusion out of the so-called teleology of nature (a conception, by the by, which by rights should only exist within life although it has slipped out of it). God is therefore certainly an indispensable idea of reason, but at the same time a problematical conception unattainable by human understanding (Ur. § 70). I think that this distinction must be quite plain: God is an idea of reason, not a conception of the understanding.

But it is not only necessary to distinguish between reason and understanding by themselves, but also between theoretical reason and practical reason.

The idea "God," in order to hold to the same example, is in the one as in the other case an idea and not a conception: still, in purely practical reason it moves into another visual angle: it gains in reality and importance. "God is only an idea of reason," says Kant, "but it is one of the greatest inner and outer practical reality" (Üg. III, 410 *seq.*). Considered from the point of view of practical reason this idea of God, however many shapes it may assume in fancy—is a postulate, an inexorable requisite. However possible it might be, Kant says, that ideas such as that of God "should not exist outside of our ideas, or perhaps should be impossible"—that does not affect him in the least: why, the whole world in which we live consists of ideas, and we know nothing of what lies outside of ideas except that it is made up of phenomena, not things. But we know full well what the idea of God has practically meant for mankind. It has been the comfort, the strengthening and illuminating power for countless millions, and even though sometimes it has served as a pretext for the cruellest crimes, it has none the less formed the strength of all the heroes and of all the heroic peoples of whom we have any knowledge.

Ideas, by means of which man finally attains manhood, have given sufficient proof of their reality.

Reason forms conclusive, masterfully bold ideas, similar to these in numbers, e.g. the idea "World." Nature, however far we may push our investigations into knowledge and science, is on all sides conditioned: to be conditioned belongs to its essence; in its case boundaries would be a senseless conception, and yet reason imperiously demands a whole, a unity, for if neither space nor time are bounded, it becomes impossible to conceive how that which is conditioned can be conditioned. Even a Herbert Spencer at the end of his life discovered this metaphysical problem, and felt it to be "overwhelming."¹¹⁵ Reason then demands an idea "World," which is distinguished from Nature by the fact that the latter (Nature) is the imagined summary of all perceived phenomena in their lawful connection, where the former (World) leaves perception far behind it and attempts by reason to think something unthinkable—an absolute totality. Furthermore, in its widest extension this idea "World" attempts to embrace in addition all that belongs to practical reason, therefore also moral life. Here evidently arises an exact counterpart to the idea "God"—as Kant says, "There is a God and there is a World. Each of the two (ideas) contains a maximum, and there can only be a single one of either" (*Üg.* III, 325). In reality the idea "God" proceeds from practical reason, and presses over into the theoretical domain, whereas, on the contrary, the idea "World" proceeds from theoretical reason, and stretches out thence in order also to embrace the domain of the practical. What is essential is to understand that this idea "World" is a true idea of reason, and therefore just as much outside of experience, just as problematical and incapable of proof, just as improbable and unattainable by the understanding, as the idea "God." Great is the mistake of the man who believes that he is achieving

a magnificent progress, that he is acting in a strictly scientific and empirical manner, when in an attempted explanation of the All he seeks to base it upon the conception of a uniform all-embracing world. Hume, whom our dogmatic empiricists are so fond of quoting, says of this idea of an all-embracing world, "it is performed merely by an arbitrary act of the mind."¹¹⁶ Moses and Haeckel, both of whom give us stories of the creation, say the same thing in slightly different words: Haeckel with many more facts, because he comes from outside, Moses, far deeper and more stimulating by his unimaginable symbolism, because he grasps the same subject at the better end—for the value of pure ideas is ever essentially more practical than theoretical, and therefore the man who turns them to account practically goes further than the man who tries to build upon them theoretically.¹¹⁷

Before going back to "Freedom" we must once more mention the idea of the Ego. In so far as the Ego is thought of as simple and persistent, and therefore as an indivisible and thence imperishable unity, it belongs to the same class of pure ideas as "God" and "World." Such an Ego can neither be proved nor even be made probable by means of understanding and experience. Experience only recognises plurality, and sees in the highly complicated brain, consisting of many parts, an organ of the ostensibly "individual" life, that is nothing less than something simple, persistent, unchangeable, immortal. "And if I wished merely to ask whether the soul is not in itself of an intellectual nature, the question would have no sense; for by such a conception I remove not only bodily nature, but all nature in general, that is to say, all predicates of any possible experience, together with all conditions which make for such a conception of an object as will by itself suffice for people to say that there is sense in it" (R.V. 712).

Yet here in the Ego you will nevertheless feel that

matters lie somewhat differently from what they do in the two other cases. For if, in the sense indicated, the Ego is an idea of reason, none the less does it belong as a unity of consciousness to understanding : besides which it belongs in the most real sense to empirical experience : in another sense you have met with it as a correlative of the " Thing in itself." In the Ego the whole machinery works together.¹¹⁸

I have now reached the point which I was anxious to attain in this discussion of ideas, namely Kant's doctrine of Freedom. The idea " Freedom " stands precisely where the idea " God " stands, in so far as it is altogether impossible to give any proofs of it drawn from nature : it is therefore a genuine idea in the narrower Kantian sense. Theoretically " it is undeniable that we cannot even think of understanding it (freedom)" (Ref. 218). " Freedom is a mere idea, of which the objective reality can in no way be set out according to the laws of nature, or in any possible experience, and which therefore, since no example according to any analogy can be supposed for it, can never be comprehended or even surmised " (G. 3 sect.). These words are clear enough ; I choose them out of many passages of similar import simply as an example. If on the one side they suffice to defend Kant against the absurd reproach of scholastic-theological narrowmindedness, I may at the same time hope that they also need no commentary in the other direction. You now are acquainted with the special essence of such ideas, and of their place in the organism of reason ; and so you will understand Kant when at the end of the sections about freedom he says that it has neither been his object to prove its reality nor its possibility (p. 207). Kant waxes hot against the men who with the best intentions desire to explain freedom and to make it plausible to the understanding, " while if they had previously weighed the conception of freedom, they

would have been forced to recognise its indispensability as a problematical conception in the full application of speculative reason, as well as its utter incomprehensibility" (Pr. V, preface). The man who wears himself out in the endeavour to prove the reality of freedom by arguments of the understanding, is undertaking an impossibility, and is therefore doing serious mischief: for it is easy to confute him, and when he is confuted, the critically uneducated believe that the very idea of freedom is proved to be untenable,—an absurd logical fallacy, but one that takes effect far and wide. On the other hand, the reality is given directly so long as we do not limit ourselves to theory, but cross-question practice. It would be ridiculous to say that because the understanding fails to grasp a thing, therefore that thing does not exist: there we should be taking up the same standpoint as the senseless beast, and should be unable to go beyond direct perceptions: even the hypothetical æther can be imagined by understanding, fashioned by the understanding into a workable hypothesis, but full of contradictory attributes as it is, it can never be really comprehended, and so if that view were correct we could not even strive after an exact science. It would not only be ridiculous but logically untenable to say;—since theoretical reason cannot prove the reality of an idea, therefore that idea is not true: for it is the essence of all ideas, without exception, that they do not tally with experience. The idea of metamorphosis as soon as we try to force it to submit to the law of sensibility (space) as well as to the pure conceptions of the understanding and time, is ruled out of court: dare we on that account say that it contains no truth? that it is not the symbolical expression for a truth which cannot be formulated in any other way? and must we forsooth deny the most direct of all realities, the fundamental phenomenon of our being, the first distinguishing stamp of reason, for

nothing more than these threadbare self-contradictory considerations? It will never be possible to make such a monstrosity credible to the ingenuous, healthy, unsophisticated man,—whose simplicity is that which Kant praises as true wisdom. Transcendental philosophy has, however, shown you with detailed exactitude why such arguments do not hold good: psychologically, freedom is of course completely incomprehensible, and to designate it as something belonging to the nature of the soul is a mere phrase; on the other hand, the fact of freedom finds its place in transcendental method and architectonics, it finds its connection with the other phenomena of reason, and so far also its comprehensibility: it is neither more nor less sure and comprehensible than the law of gravitation in theoretical science.

We begin to see now what was the use of so much subtilising. It will not do to sacrifice the one-half of our whole experience, and that moreover the half that is nearest to us, of which we are directly conscious,—practical reason with its comprehensive idea, that of freedom,—to the other half and its idea of nature. This materialism is the cruellest and most backward of all the various forms of human narrowmindedness. In the idea of freedom our experiences of every single instant gain form; it would be more possible to call into question the reality of nature than the reality of freedom.

Perhaps Kant's best utterance on this question, because it is quite straight and uncomplicated, is contained in the following passage: "Every being that cannot help being conscious of freedom in all its acts, is for that very reason, with respect to practice, really free" (G. III, 3). And since human reason "can no more give up the conception of nature than that of freedom" it must in defiance of all appearances "assume that no true contradiction between freedom and the necessity of nature is to be met with"¹¹⁹ (G. III, 1). These two utterances would suffice the

purposes of practical life. But here we who are engaged in no study of practical morals, but in that of Kant's manner of looking upon the world, must follow up the question a little further.

And now we must pass on to a new view. We must grant that freedom is an idea—and indeed one of those extreme conclusive ideas which surpass all possibility of being perceived and theoretically grasped: to that extent it stands in the same series as ideas like "God" and "World," and might at most have the value of a postulate. That, however, is only one conception, and indeed the more theoretical or metaphysical conception. In practice the idea of freedom possesses a quite different dignity and significance from the ideas "God" and "World": it is throughout real, throughout experience, if not theoretical at any rate practical experience. "The idea of freedom is the only one of all the ideas of pure reason, of which the object is a fact and must be reckoned among the *scibilia*" (Ur. § 91). Freedom possesses more reality than the Ego, the so-called indivisible, imperishable being; for of the latter we can bring forward not the faintest proof in nature, whereas the conception of Freedom, "its objective reality (by means of the causality which is supposed in it) is proved in nature by its possible effect therein" (*id.*).¹²⁰ We see the effects of freedom in every moment of our lives. Freedom is therefore doubly proven: subjectively in the "must," objectively in the visibility—not of itself but of its effects. But precisely because the idea of freedom which is all idea, idea incapable of being grasped, and at the same time quite concrete, is all the time at work substantially, therefore this idea plays a decisive part in every scheme of philosophy. For here in the place of the dilemma which exercised Goethe and Schiller, "is that idea or experience?"—there arises a dilemma out of the recognition, that it is both idea and experience. This view will, I believe,

gain in clearness if I sum it up, as after these two lectures I well may, in the strictly academical words, "Freedom is at the same time transcendent and transcendental." We know from the arguments on p. 263 *seq.*, that transcendent ideas are brought into transcendental use, and we saw it again just now in the idea "God" which, incapable of being grasped, is quite transcendent, and yet in spite of that can be of use even in the empirical investigation of nature, as Kant has shown (R.V. 615) : but here in freedom we are met by an altogether different relation ; for freedom, which, if we have a mind to speculate upon it, we contemplate as a distant, aërial, transcendent idea of reason, is in reality a fundamental, transcendental assumption of all experience. The matter stands as follows : the "must be," that is to say, the conception of commandment, corresponds to natural necessity as a transcendental counterpart ; but exactly as Kant had taken his categories of the understanding (which are in truth incapable of definition because so long as they are "pure" they are directed upon no object), from what he calls the principles which lead us in all our judgments concerning the phenomena of nature, and which, when combined as unity, are neither more nor less than the idea of nature itself,—so here it is certain that Duty is the fundamental element in our conception of freedom, but freedom is at the same time the incorporation of duty,—is, so to speak, the given fact of practical nature. With this one reservation we are justified to take nature and freedom as the fundamental transcendental combination, without which no human soul could come into being. Hence the absolute contradiction, or rather to express myself exactly, the reciprocal exclusiveness in both, upon which Kant says, "the conception of freedom fixes nothing with respect to the theoretical recognition of nature ; equally the conception of nature fixes nothing with respect to the

practical laws of freedom ; and it is so far impossible to throw a bridge over from the one domain to the other " (Ur., introd. ix). It is true that in our thoughts we cannot throw over such a bridge, but the world itself—the " world " in its most comprehensive sense,—and its correlated recognising Ego, first arise in the combination and through the combination of these opposite elements. The relation is precisely the same as that between form and teleology with which we dealt in detail in the Plato lecture. You there learnt how the fact and the idea of life arises out of and consists in the conjunction of these two component parts, which are not capable of any further relation to one another, and are transcendently exact opposites ; here you must learn to understand that everything which is designated objectively as world, and subjectively as recognition, is all of it woven out of nature and freedom. Nature is here analogous to form,—Freedom to teleology. " Duty "—(everything, therefore, which conditions fitness, and taste, and morality)—presupposes as counterpart a " being " in which no " duty " exists : but " being " none the less presupposes a " duty." Herewith you arrive at the understanding which can always serve as shield and spear against the Philistines ; it is only in, and, as Kant said above, by nature that freedom possesses importance and reality, and you arrive at the further understanding as a weapon against even still darker-minded men, that without freedom nature as a general proposition cannot be recognised, and therefore cannot be imagined. But if this transcendental combination be brought parallel to that which is discovered in life, we cannot but feel that we are standing here upon a different level. There we were dealing with things perceived, and the transcendental combination accordingly arose between conception and perception, the two halves of understanding in the wider sense of the word (*v. p. 306 seq.*),

here, on the contrary, we are dealing with the fundamental composition of our whole being, with theoretical reason and practical reason; the transcendental combination exists between these two; that is why the relation is still more difficult to grasp, and the analogy is only conditional. A better one will arise later.

In this connection I should like to point out another remarkable relation: the critical doctrine of the transcendental explains it; but of itself it furnishes a specially clear view of transcendental relations.

Nature is, in fact, nothing more than an idea which embraces the sum total of things, while freedom is the super-personal idea of the Ego, and therefore equally entitled to be called comprehensive. We might therefore believe that the relation between Thing and Ego would in our consciousness take a form similar to that between nature and freedom. But that is not the case. We feel Thing and Ego as quite distinct entities, and it needs a painstaking critical schooling for a man to learn that they are the two sides of a transcendental combination, in which each half only gains contents and sense in and through the other (p. 304 *seq.*). But, on the other hand, outside of Kant no one has the faculty of drawing a clean distinction between nature and freedom: in all religions, in all the undying systems of cabal and magic we unconcernedly attack nature on all sides with freedom, without being terrified by the senselessness of it: but if an interest in exact science has been aroused sufficing to reject these trespasses, not on behalf of reason, but in order to give freer play to science,—then the contrary begins to take place, what one might call pseudo-magic: the expert in natural science is at pains to cause freedom to be swallowed up by nature. So entirely do these two form a unity for our untaught recognition! The cause of this striking divergence in two cases which in fact deal with the same thing, will be plain from the Plato lecture

(p. 145). Thing and Ego are very near to one another,—they touch—that accounts for the looseness of the web of recognition, and the two differently coloured threads are evident. Nature and freedom, on the other hand, do, it is true, touch one another, and are fused in our own selves; but they embrace an immense deal,—no less indeed than all that exists—and so come from the two furthest ends of the domain of reason: that is why the threads are drawn more tightly here than anywhere, and the web strikes the untrained eye as of one colour.

Here we will leave the theory of freedom: we have said enough for our purpose, and must now turn once more to the practice of freedom. Here we shall have no difficulty in understanding Kant when he tells us, "Just as reason in a theoretical survey of nature is bound to accept the idea of an unconditional necessity of its origin, so too in a practical review of nature it assumes its own peculiar unconditional causality, that is freedom, linked with the consciousness of its moral commandment." (Ur. § 76). Thus two worlds stand over against one another. "The 'must,' or the imperative, which distinguishes the practical law from the natural law, puts us in idea quite outside of the chain of nature, since, apart from the recognition of our Will as free,¹²¹ it is impossible and meaningless, and then there is nothing left for us but to wait and observe what resolves God will work in us by means of natural causes, but not what we ourselves are capable of and forced to as prime movers; from which there must arise the vulgarest fanaticism, destroying all influence of healthy reason."¹²² So the whole organism of the ideas of practical reason is rooted in the "must."

But now arises the question, what is this "must" which lies at the bottom of one entire half of the essence of human reason? Obviously I can no more give a material answer here than to any other final question:

we can never treat of a *What*, but only of a *How*. What is causality in nature? The question can only be answered by calling attention to the fact that one position follows upon another with absolute regularity, and that without this obedience to law no such idea as nature could arise. In the same way the "must" itself remains "an insoluble problem" (Pr. V, 1, 1, 3), and we can only point to the effects which it brings out. "Man, if only he be convinced of something better, has in himself a power of acting in opposition to his own inclination" (Goethe): that is the fact which is incapable of being explained. And yet Kant here again, as in the case of the categories, has taken pains to obtain for the imperative a formula "as comprehensible as possible, a formula adapted to systematic application."

The universal definition of what an imperative means, is expressed within the four corners of the Kantian system by the words "Imperatives are the objective laws of freedom" (R.V. 830). Within these commandments, for that is how we are wont to designate the laws of freedom, we are now in a position to distinguish between a problematical or conditioned "must," and one that is categorical or unconditioned. Indeed, it would be appropriate here to insert another chapter mainly upon judgment, taste, and art. Even Goethe, little sympathy as he had with abstraction, says: "the highest works of art are æsthetic imperatives." But that would lead us far beyond all the boundaries which have been set for us. It must suffice to say—all that is "must," no matter of what sort it may be, is a guarantee for freedom, for "it expresses a possible proceeding of which the motive is no more than a mere conception; whereas the cause of a proceeding of mere nature must in every case be a phenomenon." We discover here "necessity and the law of cause and effect, for which no analogy can be found in all nature" (R.V. 575). Yet every conditional "must," that is to

say all that we are free to accept or reject, is no more than a sort of intermediate stage—a compromise between theory and practice, between pure reason and empirical conditions of life. In the field of theoretical reason we proceed from conditions to conditions, for ever discovering new conditions, whereas in the domain of practical reason every element presses forward towards the unconditional. *Le milieu entre le vice et la vertu n'est rien*, says Diderot ; and so it is also with freedom ; “ freedom cannot be divided ; man is either free or not free, for he can either act upon a practical principle or is dependent upon conditions ” (Ref. II, 443). That is why the unconditional “ must,” the categorical imperative, the commandment which “ admits no moral compromises ” (Ref. II, 443), can alone be the source out of which the idea of freedom flows. It is for this imperative, —which must be present in every possible form of reason, because without it there could not be even the possibility of a theoretical recognition,—that Kant now seeks to establish a universally available formula. Not, as I must repeat (*v.* pp. 702–3), that he has in view the founding of a new moral law with this formula : as regards good and evil “ the philosophers alone have been able to throw doubt upon the decision of the question : for in the universal reason of mankind it has long since been settled, not indeed by far-fetched universal formulæ, but by common use, much like the difference between the right hand and the left ” (Pr. V, 2 T) ; but it is important to determine what manner of conception underlies this all-present distinction between good and evil, or, to put it more exactly, what conceivable, and therefore intelligible, expression approaches most nearly to the fact of the imperative. Newton is able to calculate a mathematically fixed, immutable formula for the movements of bodies in relation to one another, because in this case the understanding can fashion the laws schematically in accordance

with its own requirements ; Kant, on the other hand, can only approximately determine the imperative of practical reason, because here, indeed, reason is itself the object, but precisely on this account the whole outwardly directed understanding only troubles the relations at issue, and looks upon them with an uncertain gaze. So Kant gives not one formula but several, indeed about a dozen. For our purpose it will suffice to consider a few of them.

Perhaps the following formula is the most succinct : " So deal that the maxim of your will may always be able to serve as the principle of a universal code of laws " (Pr. V, § 7).

In order to elucidate this pronouncement I must in the first place observe, that " maxim " with Kant means the principle according to which the individual deals, and is therefore subjective, whereas the law which is meant in the expression " code of laws " implies a principle for all reason, and therefore the unconditional objective. So far we may assert that this formulæ, and with it many others, proceed in obedience to the commandment, " Subject ! act objectively ! " ¹²³ For the formula expressly demands that the subjective principle shall be so formed that it shall possess an objective universal value. And the same commandment is ever ringing in our ears, " always act according to that maxim the universality of which thou canst choose as that of a law " (Gr.), " act according to a maxim which can at the same time be reckoned as a universal law " (*Doctrine of Law*), " it is right that we should choose that a maxim upon which we act should become a universal law " (Gr.), etc. Finally, the most universal of these formulæ, which does not express the imperative itself so much as the idea of the imperative—" the idea of the will of every reasoning being as a universally lawgiving will " (Gr.). Therefore, I repeat, the im-

perative of "must,"—out of which the idea of freedom, the idea of personality, and the idea of morals proceed, in which again God and religion strike their roots if they are to possess a morally cultural importance,—calls aloud—"Subject! act objectively!"

I know that this formula, in which I believe that the quintessence of the categorical imperative is rendered, may at first sound almost repellent; still, it does express that which is essential, and so calls our attention to the main principle, a principle which Kant by degrees carries on to the construction of formulæ with important divergences, rich in new views. For we soon hear, "act in such a fashion as to make use of humanity as well in your own person as in that of every other man, always as aim, never only as means" (Gr.), and again, "act according to maxims of a universally lawgiving member in a merely possible domain of aims" (Gr.). Those are the two great maxims of the imperative. You see that he has here won his way to the most lofty principles out of those beginnings in which he seemed so wonderfully entangled and lifeless that it was a matter of doubt whether we had before us the chrysalis of something yet unborn or a dead mummy. And all that is contained in the formula "Subject! act objectively!" Let us try to find out how this occurs.

Practical reason takes unity—absolute unity—as its starting-point; briefly, Being, the Ego as a mathematical inapprehensible point is here the first and fundamental phenomenon. By these means practical reason forms the counterpart of theoretical reason. But immediately, like a ray of light penetrating the darkness, the point widens, until at last there arises a whole realm of objects. What are commonly called objects, or things, are indeed, as appears from the element of all doctrine of the senses, forms subjective to such a high degree that it has cost us philosophical reflection to determine what would

remain over if they were deprived of all that is in consonance with the senses and the special property of the understanding ; finally, we were left with the " Thing in itself " on our hands, an empty boundary-thought : on the other hand, there is one single thing which is fully real and inviolably objective—that is the special subject of the Ego together with the other subjects. If I survey the " world " (the comprehensive idea of " world ") in a purely scientifically theoretical fashion, and without any regard to my practical reason,—then I stand alone ; all living beings outside of myself, indeed all mankind, are mechanically functioning chemically physical images the movements of which are conditioned, on the one side by form, peradventure developed by evolution out of protoplasmal jelly,—on the other side by assimilation,—so that, either to-day or to-morrow, at furthest the day after to-morrow, I shall be able to explain them exhaustively ; but I alone am then more than a machine ; for I am alive ; I possess consciousness and thoughts : the so-called *Solipsismus* of certain philosophical schools is thus fully justified, and indeed unavoidably necessary, if a theoretical reason alone be admitted.¹²⁴ Hence those questionable characteristics of our philosophy of natural science which in these days is apt to be one-sidedly overestimated, and which we exposed in our Leonardo lecture : the outcome of this so-called empiricism is that everything is in reality made abstract and everything is made subjective. On the other hand, practical reason—quite conversely—can only create a world for itself in that it operates objectively ; it first renders its own personality objective, and next the personalities of others. That is here necessarily the first step : the imperative which ignores its commands to " act objectively " says at the same time : there are objects ; these objects are the same as yourself, they are subjects ; you are the member of a community.

Here then there arises the idea of personality.

If the idea of freedom arises out of the fact of the unconditional "must," freedom itself, on the other hand, first assumes a comprehensible shape in the idea of personality. Personality is the idea of freedom rendered objective. In nature the acceptance of a permanent substratum—the acceptance of what the philosopher calls "substance"—is a mere thought, that is to say, a conception without which there can be no consideration of nature,—without which nature could not be understood: but whenever it is observed more closely this conception resolves itself into an empty abstraction, into a mere form, into a category. Here, on the contrary, that which is permanent is a reality; freedom in action. Whereas in the one case abstraction forms thoughts rich in results, though not to be grasped, here freedom shapes concrete living personalities in which it gains persistent form. Every personality is different from every other personality, and that implies true objectiveness. If we are capable of simplifying all the phenomena of nature, and all the things which are seen in her, to such a degree, then this is connected with the subjective quality of these "things of Nature"; the so-called laws of nature imply the absolute non-individuality of all natural phenomena. On the other hand, the true object, the Person, cannot come into existence twice. If, therefore, we are to speak here of laws, we must say that every person carries his own law in himself, that he is, as Kant calls it, autonomous, a lawgiver to himself. Here is a view which Kant has clothed in the words, "Personality is freedom and independence of the mechanism of all nature."

Here again the Thing in itself, in the shape of the Ego in itself, takes its proper rank—not that we, like Fichte and Schopenhauer, would pretend to "feel" it: yet the acceptance of the Thing in itself, is here, in the domain of the practical, a necessary and positive thought. Here

the "Thing in itself" touches us more closely than phenomenon, we are more sure of it, it is more direct. Whilst in the domain of theory the "Thing in itself" could only count as the scheme of an unthinkable thought, or as the hypothesis of a perception which it would be impossible to represent, here it assumes the importance of a directly convincing symbol, and of a theory indispensable to reason.¹²⁵

But the man—the possessor of the personality, is rooted not only in practical but also in theoretical reason, not only in freedom but also in nature: he is not only the "Thing in itself," but phenomenon as well. As I expressed it in the Plato lecture—as simply as words could render it (pp. 61-2), we have two Egos: the one in space (phenomenon), the other independent of space (the idea). As a matter of fact it is only the purely ideal personality which is independent of space, that can claim to be autonomous. It is in it that the categorical imperative, the law of all freedom, of all pure objectivity, proclaims itself. But it is through phenomenon that this true object, this only true "Thing in itself," combines closely and inseparably with nature, that is to say, with the world of subjectivity; so it forfeits much of its peculiar properties when it is dragged into the whirlpool of subjective compulsion. Pure autonomy is that quality of personality by which it makes laws for itself and fixes its own sphere of operations, not allowing itself to be dictated to by the world of subjective phenomena. This pure autonomy thus understood unfortunately remains an idea, even though it be an idea necessary to reason: it must be assumed because without it the categorical imperative cannot exist, and therefore there can be no freedom, no personality, no morals: but in our human reason it is at war with another principle of will-decision which Kant calls "heteronomy," the acceptance of the laws of others. This heteronomy is to be found at work

wherever the ideal personality does not give laws to itself, but where its will is determined by objects,—therefore by subjective “things,” and in the last instance by the Ego of the senses in space. And the effects of this heteronomy are so powerful that they almost invariably mask the categorical imperative of autonomy so as to make it unrecognisable. As a rule we do not deal objectively, but according to what for the moment seems good, subjectively determined by the impression which things make upon us, therefore not autonomously, but heteronomously,—not as an objective personality, but as a mere phenomenon among other phenomena. And herein we are confirmed by our religions. For these influence our dealings chiefly by promises and threats, by which they breed a mad subjectivism, and prevent the voice of objective reason from making itself heard. Feeling and fancy may certainly be claimed as means of help towards an education in the interests of virtue, but never as a determining motive of our conduct. Still more questionable is the introduction of a moral commandment issued as law by a God, and therefore from without. Most people are shy at first of Kant’s doctrine of autonomy, yet there is nothing that he has proved so convincingly as that all genuine morality proceeds from the objectivity of personality. It sufficed to persuade even a Goethe, who says, “conscience needs no ancestors, with it everything is given: it has only to deal with the inner special world” (*Über Naturwissenschaft*, etc.).¹²⁶ It is an error, arising out of the observation of natural objects, resting on optical illusion, if we believe that personality, as such, can receive a commandment from without. The true object is impenetrable: if the categorical imperative did not ring in reason itself, that is to say, as one of the fundamental facts out of which the Ego and the World arise and have their being, then the conception of morality would have no sense. Here, as Kant observes,

"it is the idea which first makes experience itself possible." The things which come from without are empirical grounds of decision only for the apparent Ego, not for the autonomous, moral Ego. Theft is followed by imprisonment; therefore I do not steal, at any rate when I am in danger of being caught by the police. Yet it is hardly a trace better if I do not steal because a God has forbidden it; for then all depends upon the cobweb thread of my belief in God's existence and omniscience. When to boot purely arbitrary commandments and interdictions are introduced as the Divine will, binding on pain of eternal punishment,—when observances, sacraments, beliefs in unintelligible dogmas, etc., are brought into any connection with morality, then it is all over with genuine morality.¹²⁷ Or rather it would be all over with it unless, as Kant says, "it were so impossible to drown the voice of reason," that we are all better men than our mere church-belief would make us. This voice of reason is the unconditional commandment, the categorical imperative. And I believe that, though much that is in accord with these few words may not yet have been adequately cleared up for you, you will have grasped Kant's great thought sufficiently to enable you to admit without hesitation, that the imperative "deals in such a fashion that you need humanity in your own person as well as in all other persons, always as aim, never only as means,"—that it stands in wealth of thought and in moral range immeasurably above the saying, "do unto others what you would that they should do unto you." This last injunction aims solely at happiness by means of wisdom, and is therefore like almost all our precepts of morality eudæmonistic, that is to say, it springs from that moral principle of which Plato says with biting satire, that we ought not to accept it even though the very oxen and horses were to speak in favour of it. On the other hand, that imperative which Kant formulates with such temperate exactitude

and at the same time with such convincing dignity, brings forward a point which I again am unable to describe otherwise than by a saying of his own : " morality is not the doctrine by which we make ourselves happy, but by which we should reach a dignity worthy of happiness " (P. V, I, 2, 2, 5). Dignity! There we have the fundamental feature of that doctrine of freedom, personality, morals, of which Kant is not the inventor, but is certainly the revealer. To have helped dignity to obtain its rights was the crowning act of his life on earth : the longing for dignity is the ferment which he has implanted in our hearts for the transformation of our future ; " autonomy is the foundation of the dignity of human nature " (Gr.). And at the same time our short formula, " Subject ! act objectively ! " gains further meaning inasmuch as we have shown that purely objective action implies the possession of dignity.

The formulæ of the categorical imperative which are generally adduced have no more than the importance of first steps on the road to recognition ; the two that we are for the moment bringing forward (cf. p. 369) purely render the idea of this commandment. There are, however, points here which need further elucidation : and that elucidation will at the same time open up new vistas. For instance, we talk there of " aim " in contradistinction to " means " and of a " domain of aims." What does this mean ?

In the Plato lecture you have seen how the conception of life arises out of the transcendental combination of the thought of aim with the conception of form. Precisely as the conception of a uniform nature, subjected to the law of necessity is assuredly rooted in the fact of freedom as experienced, so is that subjective thought of aim rooted in the fact of a real objective aim, that is to say, of an aim in itself, of an entity of which the value is unconditional. This " aim in itself " is personality—

"reasonable nature exists as an aim in itself," writes Kant.¹²⁸ "That is how of necessity man represents his own being to himself; so far this is therefore a principle of human actions. But every other reasonable creature conceives its own being in the same way in obedience to precisely the same ground of reason which also holds good for me: hence it is at the same time an objective principle from which as from a foremost practical ground all laws of will may be deduced." Hence therefore the imperative "so act that in your own person as well as in that of others you may always use humanity as aim, never only as means." The words "as aim" imply just as much as "personality"; and this again means "in a purely objective sense"; on the other hand, "as means" is subjective, without any respect of personality. In this way the primary commandment upon which all morality rests is referred back to perfectly clear conceptions. Humanity in your own person? That is the "nature as reason" alluded to above, that means practical reason, the reason of "must." For the connecting chain, which links together all these pure objects, these aims in themselves, these personalities, so that they do not form a chaos, but a realm (the realm of aims as the other formula has it), is the common possession of the unconditional commandment; that in this domain constitutes the analogy of the laws of nature. Freedom and law of nature stand as counterparts to one another: yet "a free will would be a nonentity," that is to say, it would be out of the range of all recognition, unless it possessed an immutable form (Gr. 3 sect.); the very fact that personality is absolute aim proves that it must also possess some sort of "absolute" form; that absolute form is the imperative. But in this formula Kant is not speaking of personality, but of "person." Person here signifies the person belonging to the world of the senses, conditioned on all sides, the Ego in phenomenon, in contra-

distinction to the ideal personality resting upon freedom. Person, as belonging to the world of the senses, and as such tossed to and fro by all impressions, like a boat upon the sea, must be under the command of its own law-imposing personality, as the boat is under the command of the helmsman.¹²⁹ To reach this point in perfection would be salvation. Here I must introduce a longer passage from Kant which may be reckoned as the choicest commentary upon this formula of the imperative. "Man has but little sanctity about him, but humanity in his own person must be sacred to him. In all creation, all that we will, and all over which we have any power, may also be used solely as means: man alone, and with him every reasoning creature, is an aim in himself. He is indeed the subject of the moral law, which is sacred, in conformity with the autonomy of his freedom. It is on this account that every will, even the special will of every person directed upon itself, is limited to the condition of being in unison with the autonomy of the reasoning being: it cannot therefore subject it to any purpose which might not originate in the will of the passive subject itself, that is to say, it may never use this subject only as means, but must use it at the same time also as aim for itself. This condition we are authorised to impose even upon the Divine will in respect of the reasoning beings in the world as His creatures, since it rests upon their personality, through which alone they are aims in themselves"¹³⁰ (P.V. I T, I B, 3). If you consider these words carefully this most clear summing up of the unconditional "must" will leave nothing obscure to you. To make use of a personality, whether our own or that of another, only as means to the attainment of an end, not as one which itself in every one of its actions sets forth an unconditional sacred end,—that is a sin—and you will agree with me if I turn our little formula, "Subject! act objectively!" in a fashion which is not

more pregnant and yet more full of thoughts—"act so that your person may only be subservient to person-ality!"

You must surely have been struck by the decisive way in which Kant with his doctrine and formula of the categorical imperative lays his hand upon the social and political world. This phrase, "always at the same time as aim, never as means," would postulate a complete revolution of our modern order of society. That such thoughts in their most comprehensible form lay very near to Kant, we know well, even though the circumstances of his life did not admit of his giving out much upon the subject. His judgment upon the modern social condition in so many ways considered as inviolable is, "in the present condition of mankind we may say that the luck of states grows in proportion with the misery of men."¹³¹ In another passage he coins the fine expression "brilliant misery" (Ur. 393), and pronounces the following judgment:—"Man must either work himself or others must work for him: and this work will rob others of their happiness in the same degree as his own will rise above the average."¹³² At another time he expresses himself on the political side of the social question, "Beings gifted with freedom will not be satisfied with the enjoyment of the amenities of life even if they come to them from others (and here from Government). . . . The rights of men, who have to obey, must take precedence of all consideration of comfort, and that is a sacred thing more precious than all expediency."¹³³ I could cite many more similar passages. But it is not in such occasional utterances, but in the categorical imperative itself that the specially revolutionary power of Kant's thought lies. "How can we make men happy unless we make them moral and wise?" he asks in the continuation of the passage quoted above. Our modern socialism attacks all these questions from without; its

whole philosophy may be compressed into the words "*Ôte-toi de là que j'en m'y mette*"; it is a war of classes: and if that class were to win the day, we, as humanity in Kant's sense, as pure personalities should stand not higher but lower. On the other hand, if the truth which Kant discovered,—the great central truth of all being, were ever to penetrate our culture, and we should become conscious of it with living certainty, it must deeply influence all our thoughts and actions, and soon effect a complete change—in the first instance in all religious convictions, and next in all social endeavours. That would at last bring about, not merely an outward political revolution, but a total transformation from within to without. Religion is the central point: and it is there that the change would have to be rooted. The masses, for whom Ernst Haeckel's shallow, senseless, and criminally careless philosophy means "religion," stand as regards human dignity far below every simple believing Catholic: what hope of salvation can there be in such a philosophy! it leads to a stupider superstition than any that priestcraft ever invented. A clearing up of religious conceptions, on the contrary, necessarily leads to a universal purification of the feelings and so, apart from all outer forms, to real progress in the whole shaping of life. History proves it. There is no need to be a fanatical pietist in order to admit that Christianity—looked at in its whole historical manifestation,—means a powerful moral elevation of man above all conditions which preceded it: and if we ask what is the thought that achieved this elevation, history answers,—the thought of the dignity of the individual, of the immeasurable value of every personality—a thought which up to that time had only been thought by single thinkers, but which now found expression in religion itself, and so achieved the work of transformation.¹³⁴ The Reformation means the rescue of this thought, which was threatened with extermination in

the scandal of Rome, and at the same time its uplifting to even greater and more conscious strength; it has a significance in the history of the world that Luther's chief work should bear the title "On the freedom of the Christian man," and that in it faith should be required of the inner man, and works be required of the outer man: the relationship to Kant is manifest, and we all, in Catholic as well as in Protestant countries, enjoy the fruits of the Reformation in the shape of the enhanced freedom of personality. Kant goes still more radically to work: and that is why the influence—rightly understood—of his conception of freedom, morality, religion, and belief in God has a still more disturbing effect upon churches and upon society. All this cannot happen in a night: we must spare no pains in sowing the seed: in the fullness of time it will come up.

That Kant looks with full confidence to the future is proved by the second of the above-mentioned most important conceptions of the moral commandment, "act according to maxims of a universally lawgiving member in a merely possible realm of aims." This realm of aims is, as you now understand without further explanation, the realm of personalities, it is a "moral realm" (Ur. § 86). Now inasmuch as everything in our recognition contains contradictory elements, so also does the conception of this realm; for on the one side, as comprising the only real objects, it is the most objective conception that we possess; we may even affirm that this idea of a, so to speak, intellectual unity, or as the technical expression has it, of an "intelligible world," exists more or less consciously in the most primitive initial stages of culture and society, until in the brains of a few favoured, holy men it raises itself to the conception of a "*corpus mysticum* of reasoning beings" (R.V 386): while on the other side it is and ever must be impossible to our understanding—(unable as it is to

think and give value to its thoughts otherwise than in space and time by means of its immutable categories)—to think out to the finish this thought of a realm of aims. The fact of the categorical imperative, with its corollaries of freedom and personality, teaches us, as Kant once says, “to think into ourselves,” but not to “look into ourselves,” and thus the conception of this realm of objects of freedom, standing in combination and in reciprocal operation to one another, remains a presentiment or conviction rather than a demonstrable conception, or as Kant more modestly puts it,—Kant who was chary of talking about presentiments and such matters,—“a standpoint which reason finds itself under the necessity of accepting outside of phenomena, in order to think of itself as practical.” Here symbolism and allegory, to which all the religions so abundantly lay claim, are directly imposed: with this proviso, that we must remain conscious of what is allegorical and symbolical in them, as was so largely the case in the ever-changing ancient mythologies; whereas as soon as the image receives the stamp of historical fact,—that Grecian* gift of the Jews to Christendom,—demonstrable falsehood creeps into religion, poisoning the pure wellspring of all genuine morality. Symbols must ever be born anew, otherwise, instead of illuminating the intellect, they shroud it in night; for it is not in one image, but in many images, that their value for our thought-life lies. The cutting of the Gordian knot of incomprehensibility is a piece of dishonesty from which good intentions cannot absolve us, and which we have to expiate bitterly. As Kant says, “the belief in history is dead in itself, that is to say, for itself: looked upon as a creed, it contains nothing which should have any moral value for us” (Rel. 3, st. 1, ab. VI).¹⁸⁵ Kant then, who on the one hand wishes in the interest of reason to restrain all

* “Timeo Danaos et dona ferentes.”

mystical sentiment within the borderland of the most intimate personal religious life, and on the other hand repudiates an artificially enforced dead belief in history, discovers a new standpoint, seen from which this "idea of a moral world" at once receives fresh, pulsating life. That he does this, and how he does it, is the most characteristic of all the features which make up Kant's personality.

Where speculation abdicates, there action must take its place: that is the only way in which practical reason proves itself to be the peer of theoretical reason. That is Kant's conception.

It is certain that Kant remained all his life convinced of the objective reality of the intelligible world, in contradistinction to the world perceived by the senses, and in one passage points to the possibility "that if we were to look upon things and upon ourselves, as they and we are, we should see ourselves in a world of intellectual natures with which our true connection would neither begin with birth nor end with bodily death, as mere phenomena"; yet he immediately adds that these are mere "private opinions," because he is afraid that as soon as they should appear "vouched for in themselves and with a certain absolute value, they would tend to drown reason in fables and delusions," while he will only look upon the whole thing simply as a defence against those narrow brains which do not understand that the laws of nature do not include the whole field of possibilities (R.V. V, 808 *seq.*).¹³⁶ But the thing takes another complexion when we confine ourselves to what we possess, namely, to nature and freedom, and resolutely take our stand upon the life which is actually given to us. Here then the categorical imperative shows the way to a through and through concrete realm of aims that would "really come into existence if they (the maxims of the imperative) were universally followed."¹³⁷ Such a realm of aims then is no castle in the air, but is thought

out in the strictest analogy to the realm of nature, and indeed as an ideal to be striven for. "In nature the realm of aims is a theoretical idea (teleology) for the explanation of what is already there. Here it is a practical idea destined to bring into existence something which is not there, but which may be realised by our works of commission and omission." Whatever may be the condition of the *corpus mysticum*, it is our business to bring into existence the realm that is not there, but which "may be realised by our works of commission and omission." What theoretical reason has attained during the course of the last centuries by systematic efforts in the interests of knowledge and mastery over nature, that must now be the equally systematic object of endeavour for practical reason.

Here again is the transcendental counterposition, the diagonal as Goethe would have said, but in this case holding our whole being in its grasp:—that which is for ever in process of coming into being, namely nature, necessarily conceived by us as actually in being, on the other hand that which is completely autonomous and therefore stands outside of the laws of motion of rotating nature thought of by us as something that is yet in process of coming into being, as the striving and working for something which is not there, but may yet be. Here we have the process of coming into being converted into actual being, and actual being into coming into being, at that imperceptible point where consciousness and world arise.¹³⁸ But Kant spends no time over abstract considerations of this sort: abstraction is all very well for theoretical reason and its so-called natural science,—practical reason and its moral commandment call for action. This is all that matters here. Man is already the "citizen of a better world," so far as he has it "in his idea" (R.V. 426); he will realise it as soon as he has clearly and soberly recognised the law of his reason in its

practical manifestation. Schiller has sung the canticle of this doctrine of Kant's in his *Letters upon the Æsthetic Education of Man*, where he praises "the creative rest and the great patient mind of the man who knew how to pour the ideal into the sober word, and to give it over to the care of the trusty hands of time." Further on he says "the true moral impetus is directed upon the unconditional—it knows no time, and the future becomes the present for it as soon as it is compulsorily developed out of the present. In the case of a boundless reason the direction is at the same time the end, and the journey is finished as soon as it is begun. Direct the world upon which thou workest towards the Good, and the patient rhythm of time will bring the development." Hence the imperative admits an ideal formulation pointing to the future: act according to the maxims of a universally lawgiving member in a "merely possible" realm.

Here we have the pinnacle of the many-keyed gamut of the contemptuously misunderstood categorical imperative,—of the sublimest thought that ever, since the days of Christ upon earth, has been thought by man,—a thought fitted above all others to lead the noblest of our race to a worthy future.

I must hurry to an end; for with the discussion of freedom and the imperative I have laid before you the one indispensable complement for the precedent description of Kant's "style of thought." A few words must yet be said upon the subject of God and religion.¹³⁹

If there is one thing above all others that we must establish as impressively as lies in our power as the distinguishing mark of Kant's philosophy, it is this: belief in God, and with God in immortality, is not a condition of morality, but, on the contrary, it is the fact of the imperative of duty that leads us to such ideas. The reality of freedom proves the possibility of God (P. V., pref.). Truly this possibility cannot be theoreti-

cally perceived, but practically it grows into a commandment of belief, because in fact without some such assurance it is not possible for us to strive for that which the existence of practical reason compels us to strive for. The belief in God is thus a moral necessity, that is to say an irrefutable "subjective necessity." God is not a fact theoretically capable of proof or even capable of being made probable. And not only is it impossible to prove objectively the existence of an all-powerful Being, but even if it were so possible, not the slightest advantage would have been gained for morality and religion—but the contrary. We have seen that autonomy constitutes the essence of freedom, all that is meant by personality: "laws which are not the original gift of reason and the observance of which it carries out as a purely practical power cannot be moral laws."

For the conscience that relies upon itself
Is sunlight in the day of morals.

—GOETHE.

If it were possible, therefore, to prove the existence of an all-powerful, all-knowing creator of the world, and if we reasonable beings were compelled on pain of punishment to obey the laws enacted by him, then such a condition would never and in no way lay the foundation of morality, but of nothing more than "compulsion and a necessitated subjection." On the other hand, if we go to work in a converse manner, we, "free by virtue of the prescription of our own reason," are able "with the truest awe, an awe which is far removed from pathological fear," to believe in a most high Being, that is to say, to form the idea of such a Being.¹⁴⁰ If then the ecclesiastical conception of God, at any rate so far as popular doctrine is concerned, is historically materialist, while that of the philosophers and enlightened Doctors of the Church is scholastically rationalist, Kant's conception of God may be described as practically idealist.

Sure it is that God cannot be proved theoretically, that is to say, from the standpoint of nature: it is repugnant to me again to allude to that, and I refer you to the famous seven sections of Kant's *Critique of Pure Reason*, which taken together form the chapter, "The ideal of pure reason": the *Critique of the Power of Judgment* contains a shorter lecture upon the subject which may suffice for a beginning (§ 90). It is regrettable that there should be many professors who venture to mess about with their prevarications and sophistries even over this immortal achievement of Kant's; it tends to unsettle and incline to superstition the many men who have only heard of Kant's results, but know nothing of the proofs by which he arrived at them: yet Kant stands here as firm as a rock, and no one who has understood him can honestly question the fact. For theoretical reason God does not even possess the value of a hypothesis; for hypotheses must attach themselves to empirical experience, at any rate as possible conceptions, whereas in Kant's words, "a mere idea of reason, used for the explanation of the things of nature, would be no explanation at all, since that which is only imperfectly understood by known empirical principles would have to be explained by something of which nothing is understood" (R.V. 800). It is not without interest to meet with the same train of thought in the Catholic monk Malebranche: "*Il n'y a rien de si déraisonnable que de . . . vouloir expliquer des choses qu'on n'entend point par des choses que non-seulement on ne conçoit pas, mais qu'il n'est pas même possible de concevoir.*"¹⁴¹ That is why God in nature remains at most only "a point of view" which may lead to greater unity (R.V. 709).

Here it is more important for us to perceive that from the standpoint of critical method the existence of God cannot be admitted even as a problem. "Transcendental philosophy does not ask whether there be a God"

(Üg. III, 345). Indeed, how could such a question even be put? It is of the essence of all ideas that they stand outside of empirical experience, and only arise here where we are dealing with one of those ideas which are the outcome of a necessity of reason, and are rooted in no experience (p. 353); "we cannot ask whether there is a God in nature, for the conception is contradictory" (Üg. III, 378).

You must come to a clear understanding upon this point that God in every relation is wholly unthinkable.

We saw above that, if I may so express myself, outwardly we can find no function for God (p. 354). But this conception becomes still more serious when we reflect that we apply no understanding to it, that is to say, that in no way can we arrive at it by our thoughts. It is only when it is applied to matters of the senses that understanding possesses any meaning; without this its conceptions remain empty (*v. I*, p. 282 *seq.*, p. 307 *seq.*). That, therefore, means that when we speak of God, we may speak neither of expansion nor of influence, neither of unity, nor of plurality, nor of universality,—neither of the causation of other things, nor of relations to other things, nor of possibility, nor of existence, etc. For all these conceptions hold good only in the world of the senses, and (through the inter-organisation of the given perceptions which they effect and the general relations of judgments) in the coming into existence of what we call empirical experience. No more can we attribute understanding or will to God Himself: for these have a thinkable meaning only within the general consistency of our human nature. To be sure, if we resolutely decline to cease contemplating the Divine method of proceeding, we are compelled to think of it in analogy to the functions of that human understanding of which alone we have any knowledge (*Ur.* 451); but no recognition of the Divine Being takes place in that way, because when we

think of God "we are compelled to abandon those conditions under which alone we recognise an understanding" (Ur. 481). Malebranche has however just told us that it is foolish, *dérisonnable*, to speak of God as a spirit; to speak of incorporeal spirits means inventing (Ur. 91); it is mythology, and indeed mythology of the worst sort, abstract mythology. It is impossible to attribute to God any single quality, "which could not be incontrovertibly met with the objection that if we should remove from it all anthropomorphism there would be left nothing but the mere word without the possibility of connecting the slightest conception with it" (P. V, 1, 2, 2, 7). Even the conceptions power, wisdom, virtue, in these conditions lose all sense; where there are no relations no power can reveal itself,—where there is no understanding nothing can come into being which would correspond to our knowledge,—where freedom does not come in contact with the necessities of nature, the conception of duty cannot arise, and with that morality and virtue equally fall to the ground. Thus the pure critique of reason leads us to a point which our deepest mystics had reached centuries ago. "If I say God is good, it is not true—rather am I good, God is not good; equally if I say God is wise; it is not true: I am wiser than He": that was the doctrine preached by the pious Dominican Eckart in the fourteenth century.¹⁴² To which attaches the supplementary view, "the creation of worlds is an easy matter . . . God's nature, His being, and His Godhead depend upon this, that He works of necessity in the Soul."¹⁴³

It is one of the most remarkable features in Kant's thinking, a feature which points to the unfathomable depth of our being, that he argues exactly in accord with Indo-Germanic mysticism,—he who dreaded and fled from all mysticism as from a disease. God not recognised in creation, which means nothing, but inferred

out of the soul : that is in mystically secret expressions literally the same thing as Kant's crystal-clear methodical result ; God can in no wise be recognised by theoretical reason, but the idea of God arises in practical reason an irrefutable thought of the greatest practical reality, arising out of the fact of the moral code.

It is, of course, not without a purpose that I refer here to the mystics : for it cannot be doubted that these were our purely religious men of genius. On the other hand, a world which takes false judgments uttered by chance once in a way, and publishes them till they become accepted as facts, is in the habit of asserting that Kant understood but little of religion ; Schopenhauer in especial, the wanton destroyer of all understanding of Kant's thoughts, has contributed much to this. It may suffice for us to see that here too Kant, as previously in the case of exact science, is in harmony with the deepest presentiments of religious spirits. " If the honouring of God is the first thing," says Kant, " to which we subordinate virtue, then this object is an idol, that is, it is considered as a being which we might hope to please not by moral good conduct in the world, but by worship and flattery : but in that case religion is idolatry." In order to possess true religion, we " must have the courage to stand upon our own feet." ¹⁴⁴ For it is not this world of the starry dome which leads to a true divine ideal, but this " second world " of duty, of freedom, of reverence for ourselves, as Goethe said later in connection with Kant. Fear had long since made Gods : but a far more august conception of the Godhead is born of the critical distinction between the world of freedom and the world of phenomenon ; what up to the present time has been called Theology was, if rightly considered, Dæmonology (Ur. § 86) ; and in addition breakneck, utterly senseless metaphysical speculation, the *perversa ratio* which turns everything topsy-turvy in order to enthrone its dogmatic God of

nature as an idol (R.V. 720). Whilst this false theology then makes out of the idea of God "an idol which cannot be honoured otherwise than by superstition," the new doctrine of the Divinity, which proceeds out of the critique of reason, sets up "an ideal which compels us to worship, since it proceeds itself out of the most sacred duties which are independent of theology."¹⁴⁵

We may therefore define Kant's conception of the essence of religion as follows: religion means the birth of the idea of God out of the depths of human nature. Kant looks upon God not as a beginning, but as an end; not as a primary cause, but as an aim; not as a Being of which we possess any knowledge, but as an idea in which we believe without being able to grasp it: in short, according to Kant, God is simply and only bound up with the moral being of man: Schiller, under the influence of Kant, says, "so soon as I believe in God, I give up the Creator." This idea of God is the direct contradiction of the Godhead of the Jewish Thora, which to this day poisons our religious conceptions and with them our whole conscious and unconscious Thinking. Kant pronounces of Jehovah that He "is not that Being the conception of which is necessary for religion," and so Judaism as a general proposition "taken in its purity contains no religious faith" (Rel. 187 *seq.*). In order to understand Kant here we must therefore begin by once for all getting rid of the whole heavy burthen of inherited and indoctrinated Jewish conceptions. Kant's doctrine of religion, however scientifically dry it may seem, is a true fountain of youth: out of it we may emerge washed and purified from Semitic delusions after millenniums, able to adopt as our own that most modern form of primeval Aryan religiosity which is accurately fitted to the order of thought of the living present, to the results of the only pure exact science,¹⁴⁶ and to the social requirements of our time and of our future.

Kant's own definition is "Religion is the recognition of all our duties as divine commandments" ¹⁴⁷ (Rel. 4 st., 1 T, S. 329). But everything in this sentence depends upon the correct understanding of the word "as." Here "as" does not mean that we are dealing with practical commandments of God, and therefore *Duty* is our *Duty* towards (*erga*) God; it rather, according to Kant's own showing, corresponds to the Latin *instar*, and so means "as if." We are to consider our duties in such a fashion as if they were the commandments of a higher Being: the man who does that "has" religion, and "to have religion is the Duty of man towards himself" (Tug. § 18). Kant gives us the following commentary upon this definition; "that all human duties must be considered in accordance with this formula of their relations 'to a divine will, is based upon a merely subjectively logical foundation. We cannot make the condition of duty (moral necessity) perceptible without at the same time thinking of another Being and its will,—of which the universal lawgiving reason is only the spokesman—namely God. Only this duty in view of God (really the idea which we form to ourselves of such a being) is the duty of man towards himself, that is, not an objective duty,—the obligation to render certain services to another, but only a subjective duty for the strengthening of the moral mainspring in our own lawgiving reason" (Tug., conclusion). Let me explain this in such a way as will enable you clearly to realise what it means in Kant's whole system of thought.

In the first place, let us glance at nature. There are certain movements perceived by the senses, and conjoined by reason in fixed directions, which in the first instance serve as material at the disposal of theoretical reason: it is out of these that it forms the conception of laws and the idea of nature: that happens instinctively. But it takes a powerful step in advance when it devolves

upon it so to shape this whole architectonically in its conception that everything stands in immovable relations. Here is where Man first comes into being : he comes into being at the moment when he thinks the thought of a science of nature, however poetical and fantastic this science,—this “shaped knowledge,”—may in the first instance be. Even modern science, as we have often seen in the course of these lectures, affords startling impulses for fancy : it only strikes us less because we are really still living and working in the midst of these inventions ; later generations will admire us and at the same time smile at us. Whenever man gives shape to nature, he is creating science, and in so doing he himself escapes out of chaos and becomes a personality, for he proves himself to be free. No man has grasped these relations so deeply or given them an expression so beautiful for all time as Schiller : “So long as man in his first physical condition only passively takes up into himself the world of the senses,—only feels,—so long he is still entirely one with it, and just because he himself is merely world, no world as yet exists for him : it is only when in his æsthetic condition he places or surveys the world outside of himself, that his personality is sundered from it, and a world appears to him, because he has ceased to be one with it. . . .”¹⁴⁸ A slave of nature so long as he only feels her, man becomes her lawgiver, as soon as he holds her in his thoughts. What up to that time had only ruled him as a Power, now stands as object before his directing gaze, and eternal power is mastered by eternal form.”¹⁴⁹ In order to speak intelligibly and impressively Schiller here sets out what are the functions of reason outside of time : apart from this poetic license it is literally the doctrine of Kant. According to Kant religion arises in close analogy to this. Religion also is Form, the mastering of power by form : only that here, where everything stands in counterposition to nature, form follows other

principles. Just as the system of nature first became genuine science when observation had become exact (Galilei) and formation conscious (Descartes), so religion will not become pure and render undivided blessings until it ceases to consist of instinct and fanaticism and historical tradition, and is clearly grasped both in its roots and in its aim. We Europeans stand to-day in regard to religion much in the same condition as the Hottentots do in regard to science ; what we call religion is an empirical jumble ; and our theology (that of all the confessions) is, according to Kant, " a magic lantern of ghosts of the brain." That is why it was necessary to perfect that work of thought which Kant perfected and which he published under the title of *Religion within the Boundaries of Pure Reason* ; just as in the sixteenth century new foundations were discovered for science, so it now became necessary to find new foundations for religion, namely foundations methodically correct, for which reason may take upon itself responsibility.

The title of the book has certainly from the beginning given occasion to wicked misunderstanding. For in the first place reason has from all time been in bad odour with our professors of religion. A " rationalist," in the sense of a man who makes use of his reason, is at once looked upon by them as an enemy of God ; it is not long since a Pope issued a whole encyclical against this evil brood, and the Protestant Popes follow suit without intermission. The less the reason, the greater the piety, is an axiom which holds good. But even refined and honest intellects, like Lichtenberg for example, seem to have thought that Kant was guided by the intention to set up a purely rationalistic religion, and take their stand warningly against any such undertaking. But that is a misunderstanding. Certainly religion is not interwoven with reason in the same way that science is ; for in natural science matter comes from without, and reason

gives no more than the symbolism of form, whereas such matter as religion possesses is furnished entirely by the inner man, and here it is the form which comes from without, and which on that account—I lay stress on the words *on that account*—remains allegorical for all eternity. Still, it is manifest that religion cannot confine itself for us inside “the boundaries of mere reason”; Kant’s very title expresses this, disclaiming as it does the impulse to take religion into consideration as a whole, and declaring the wish only to investigate the subject within fixed limits. For the exact critical consideration of science Kant had written his *Metaphysical First Principles of Science* (1786), which do not investigate science as a whole, but rather only the formal principles of all exact science; he now (1793) wrote the corresponding work for religion, with the difference that here it is the matter and not the form that is given, and in consequence underlies the system of criticism; form is, on the other hand, being directed in accordance with empirical requirements. “There is only one true religion,” says Kant, “whereas there may be many various sorts of faith” (Rel. 3, 1, 5). In order to grasp this one religion in its essence, we are compelled to keep ourselves within the boundaries of mere reason; that is what Kant achieves in this work.

Religion, like science, is a process of systematic formation. It is the bringing into evidence of the world of freedom. But whereas science illustrates essentially by means of conceptions, religion illustrates by images; in other words, science in the main works schematically, religion allegorically: in consequence of this the machinery of symbolism common to both in each case possesses a special distinctive colouring. In the case of science the difficulty consists in the impossibility of ever quite mastering the boundlessly manifold matter; a too powerful schematicism and a symbolism which stands the unthinkable as “exact” thought, are un-

ceasingly striving after a goal which is itself for ever moving further into the distant background : what gives value to science is not, as simpletons are wont to imagine, its possession of truth—even if this should only be merely symbolical—but its methodical adaptability for practical life, and its formative importance for fancy and character. In religion all relations are reversed. Here we have no matter unbounded in space and time, but only a mathematical point,—moral personality. That is all that is “given,” and this one and only thing does not in the first instance contain any element of any sort of perceptibility. The existence of a moral commandment cannot be proved empirically like the laws of motion in nature : not only is its automatic character in and for itself irrefutable (pp. 369–70), but when e.g. any one does not tell lies, I cannot know whether he is telling the truth out of wisely calculated interest, or in obedience to his own autonomous reason, taking no notice of all considerations of hazard (Gr.) ; and it is only the categorical imperative, not the other imperatives, which, as this example clearly shows, is the cause of morality. The realm of aims described above is therefore a fiction, a religious fiction, by which I make manifest to myself the commandment imposed in my practical reason, a commandment fighting for expression. And so I go on inventing and, like all other men, attain certain ideas which, notwithstanding every difference of conception, are in one form or another met everywhere, and among which God and immortality take the first place. How utterly incomprehensible, and therefore from an empirical point of view, absolutely empty the idea of God is, you have already seen, and yet it is of importance to us everywhere, because, as Kant said just now, we have no other means of representing to ourselves moral duty. The same holds good with immortality. The man who is instructed in criticism knows too exactly how entirely the conception of time is

bound up with the functions of the understanding, for him to be able to consider the conception of immortality as anything more than an allegory; and yet it is of decisive importance not to look upon the remote goal of pure holiness of will as unattainable, and so, wherever a deeper religiosity is dominant, thought ever returns "to an existence of personality prolonged in one or another form. This thought is, as Kant goes on to say, "of the greatest utility, since without it we are inclined either to condition an unconditioned moral requirement, and so to become indolent," or else as visionaries to exaggerate the expectation of being able to fulfil it, and "lose ourselves in theosophical dreams." Goethe has put Kant's agreement into a simple formula:—

Thou hast immortality in mind;
Canst thou give us thy reason?
Right well! The reason lies therein,
That we are nought without it.

Is not our whole recognition, looked at from the higher standpoint of criticism, even our theoretical recognition, only a parable? The thoughts of God and of immortality possess perhaps more reality than the conceptions time and space.

In this comparison between religion and science as the two great systematic comprehensions of all the experiences of mankind,¹⁸⁰ my special purpose has been to impress two things upon you unforgettably. The one touches the arising of religion, and therefore its place in reason and also in life; the second is its special function, which is contrasted with that of science. Let me once more bring up for consideration these two points, taking the opportunity to add one or two new definitions.

Religion arises out of the fact of the moral code, in other words of the categorical imperative—not the converse. I stated this before, but I think you are now perhaps better able to realise the importance of this

discovery. The fact of moral personality leads directly to religion, but religion is "not the foundation of morals."¹⁵¹ "If practical reason has the right to guide us we shall not hold actions to be binding because they are the commandments of God, but we shall only look upon them as divine commandments because we are in our intimate selves bound to execute them" (R.V. 847). Herewith our whole body of ecclesiastical teachers stand convicted of an error irremediably destructive of all moral perception, an error just as deep as that of which Aristarchus and Copernicus convicted Aristotle and Ptolemy in their conception of the Cosmos. Turn over the pages of the encyclical of Leo XIII of the 20th of June, 1888, *De libertate humana*, and you will find the categorical assertion: *Huc accedit virtutem veri nominis nullam esse sine religione posse*, "there can be no true virtue without religion." Kant affirms the exact contrary: true religion can only be born of virtue. Upon one point both are agreed: virtue and religion go hand in hand; for according to Kant the properly considered fact of the moral code leads just as necessarily to religion as the correctly observed facts of nature lead to science;—in his view to believe in the existence of God is a moral necessity so compelling that he looks upon the man who does not so believe as wanting in moral worth. But the difference lies in the fact that our churches all hold religion to be the *causa causans* of morals, whereas Kant shows that the relation is converse. Out of this to all appearances merely formal divergence, two entirely different systems of philosophy arise. The point at which the priest arrives with his affirmation can be gained from the same sentence of the above-named encyclical and that which immediately follows it; for the Roman high priest contests the right of mankind to acknowledge any other religion save only the Roman Catholic, *quæ unice vera est*, "which alone is true." Thus we have the following

premisses of a syllogism : there can be no morality without religion : the Roman Catholic religion is the only true one. The man who asserts this lays down thereby the monstrous proposition that the Roman Catholic can alone possess virtue, a proposition by which all mankind, even human nature itself, is slandered in the most audacious manner. Still, I am far from desirous to lay stress on this in this connection : Luther's treatise, *Belief is Salvation*, leads to the same result as soon as this doctrine is considered in the sense of ecclesiastical orthodoxy. What we have to remark is this, that the first affirmation, out of which all further sequences follow, is wrong from the very beginning, and this assertion, even if it be not always given in so crass a fashion as here, is the quiet assumption of all our conceptions of religion. That is why Kant, twenty years before he published his *Religion*, wrote to a friend that it is our religion which, in all its various ecclesiastical forms, "makes all moral conviction unsteady" (*Letters*, I, 179). So far from strengthening us morally, which should be its special aim, our religion unsettles us and weakens us : we go astray ; we lose our standard of judgment : the utter, vulgar scoundrel who belongs to any one of the churches that are monopolists of sanctification, and who on his death-bed has mystic means of grace administered to him, possesses "Virtue" ; the man who, silent, and unknown, sacrificing all desires and hopes, does his duty to the day of his death, belonging to no ecclesiastical community and bending the knee to no priest of any confession, possesses no "Virtue," morally he is the inferior of a Borgia ! All this,—all this religious delusion, as Kant is wont to call it, is the inevitable result of the one fact that we, for lack of critical investigation of our reason, have arrived at looking upon religion as a first, and morality as a second deduced from that first. In this way the moral code becomes external and

casual ; we must have tables of the law ; whoever has the power sets them up ; to believe in some lie becomes of more importance than to tell the truth : autonomy, that great fundamental law of our personality, is rejected, the priest takes the helm and does what is natural : he so arranges matters that the power becomes his ; whatever may be the doctrine—according to the changes of the age—that is fitted to give these worthy gentlemen a preponderating influence over mankind, they know how to give all expression to that doctrine, and make of it an article of belief¹⁵² (Hume), and so the genuine natural feeling for that which is freedom, personality, duty, becomes gradually clouded. However clearly and rightly we may see in the domain of theory, in that of religion our conceptions are confused, disconnected, and false : and the worst of it is that we expect instruction from those who conjure up night and mist, without which they would be lost,—namely, from the theologists. It was in order to enlighten us upon this subject that Kant wrote his *Religion within the Boundaries of mere Reason* ; whilst we learn to distinguish the genetic connection between moral personality and the conception of religion the scales fall from our eyes. We can now will with success, for we know what we will. We choose a religion in the place of that which Kant called “statutory belief as service to God” (Rel. 201, etc.). “It is true that in order to be freed from this slavery we only need to will : but this willing is just that against which our teachers of religion have pushed a bolt inside.” Kant teaches how to push back the bolt. And it is worthy of reflection how he specially is always calling renewed attention to one point, namely, that we are ruining the moral character of our children, if we begin by giving them religious instruction and allow morality to proceed out of that instead of acting in the converse way ; in this manner we bring up fanatics, impostors, and morally inferior men :

" but it is of the greatest importance in education not to bring forward or amalgamate the moral catechism with the religious catechism, and still less to let the former follow upon the latter : but at all times with the greatest perseverance and detail to bring the first into the clearest recognition. For without this nothing comes of religion but imposture, to acknowledge duties out of fear, and to pretend to believe things which have no place in the heart " (Tug. § 52).

So much in brief about the immeasurably great importance of a right recognition of the genetic relation between a moral code and religion. Now for the function (the office) of religion.

In contradistinction to science it is not Things that lie at the bottom of the subject under discussion, but actions. Personality, as we have seen, is a *something* which cannot be grasped by the understanding or the senses : it evinces itself through those deeds which are wrought in freedom. It is in a similar manner that true religion aims at deeds, not at recognition. Science teaches us to comprehend ;—it is the function of religion to give life, to give life to facts.

In this relation again we are dominated by a universally ruinous confusion. The expression " Theologian " is one of common parlance : as if any man were in the position to know anything about God, let alone to attain learning in such a science ! And since the foundation of all the Christian confessions consists in the affirmation, adopted from Judaism, that God created the world,—the visible world that is before our eyes,—and that it is He who maintains it (Aristotle), it follows immediately that the said Doctor of Divinity is in possession of the true recognition of the world. " Recognition," says Luther, " must come from God the Father " ; and it is thus no more than logical that, if Pius X teaches *ecclesiæ mentem subijci necesse est*, the understanding, the organ of recog-

nition, must be subject to the Church. It is true that our genuine science, by waging a long uninterrupted war has made its way against this doctrine, which is as groundless as it is stiffneckedly obstinate : but so far the practical success has only been decisive by slow steps, and in principle little or nothing has been effected : we stand where the Middle Ages stood, and do not yet know that " the Godhead of God depends upon the fact that He works in the soul." The words of Pius X are dated the 2nd February, 1904, and they reflect the belief of every priest and every believer. We may extend the epochs of time, we may draw out the days of creation, we may explain much as arising out of mysticism, and the Protestant religion is more tolerant than that of Rome ; still, the recognition of the divine cosmic plan remains a fixed assumption, and all educated circles go into excitement over the old Babylonian tiles because they believe that they play a part in " religion " and " throw a new light upon its records." Surely it must be time that the old commandment, " thou shalt not take the name of God in vain," should gain new strength with new significance. We all quote as deep wisdom the saying which Goethe, following Bruno, has put into verse :

What God were he that should only thrust from without ?

And yet that is a fairly cheap philosophy : Kant has proved once for all that in nature it is impossible to distinguish the inner from the outer. No matter where we feel God striking and moving in nature, this conception at once destroys the scientific comprehension of nature. Here, on the other hand, in practical reason, the matter of chief importance is whether God is " thrusting " from without or born internally. If the law for our moral behaviour comes from without as a decree from God ; if religion consists in a divine service ordained by God to His own praise and glory : then there remains nothing

which could deserve the name of morality, nothing but "police regulations" and "mechanical worship." On the other hand, everything at once springs into life if, as Kant teaches us, religion and belief in God are born of free personality, as a system of ideas, "upon which every moral, earnest process of working up into what is good must inevitably ensue, without claiming the power of assuring objective reality for it through perception."¹⁵³ For now we understand at once what is the part to be played by religion, and that it concerns us all in our inmost soul; we understand that in it personality, the secret glowing centre of our many-sided being, seeks to be brought into shape, in such a manner as to enforce itself as powerfully as possible against the "without," against empiricism, even should it be the empiricism of the person itself.¹⁵⁴ In order to carry out quite free deeds we must project the impalpable central point of personality upon its whole circumference, and indeed far beyond it. The mathematician knows in what a close reciprocal relation zero stands to infinity: they are correlatives, two poles between which all thinkable forms move;¹⁵⁵ change the standpoint a little, and the one instantaneously gives place to the other. And so it happens here. "This self, smaller than a grain of millet or than the nucleus of a grain of millet, is greater than the earth, greater than heaven, greater than all these worlds together."¹⁵⁶ If, as Bruno did, I apply such considerations as these to an explanation of nature I become a senseless fanatic, but for practical reason, and for the understanding of the essence of all religion, they are indispensable. As soon as personality is projected upon the world, upon the world of understanding and of theoretical reason, it embraces all space and all time: its pedigree traces back into infinity, eternity stretches itself out before it, all around stands the *corpus mysticum* of personalities bound up

with it into unity ; nature on the other hand shrinks into a thing of little account, it can almost fade altogether out of sight, become a mere veil, thrown over genuine truth. In this way religion is born. At last man dares ! He dares to be free, he dares to cast off the shackles of nature ; he bridles his selfishness, he sacrifices himself for an idea, he goes to his death radiant with joy ; in a word, he obeys the self-imposed law,—duty,—he proves himself autonomous : instead of his will being subjected to nature, nature is subjected to his will (P. V). Exactly as science is no aim of self—indeed, it would be but a poor aim of self to convert the whole glorious nature into an abstract schematism,—but is directed to an increase of knowledge, a means of nourishing fancy and mastery over forces, briefly an enhancement of the productive powers of the understanding and of theoretical reason,—so religion also is no selfish aim, but a means to an end : its office is to heighten the productive powers of practical reason. That religion does this needs no proof : the whole history of mankind bears witness to it. I quoted just now some words of the Pope which uttered in the blindness of immeasurable pride are a crime against humanity : yet who would venture to contest the power for good which a religious system like that of the Catholic Church awakens and fosters ? Thousands of lives full of unconditional self-denial, full of self-sacrifice on behalf of others, without any hope of reward upon earth, full of the courage of death, are being lived all round us in this faith. Before such lives, no matter whence they draw their strength, every honest man bows his head in awe. This power can be drawn from the most different religious conceptions. The martyrs of the internecine Christian confessions all died with the same courage : in the whole history of the world there is perhaps nothing which bears more sublime testimony to the dignity of free human autonomy than the story of the Waldenses. Those who

are acquainted with the Mohammedans know that their religious faith, barren as it is, is yet the strongest of all : with us the power of earning the crown of martyrdom is the gift of the minority—with them it belongs almost to all. It is the Aryan Indian who in mastery of the empirical self by the ideal self takes the lead : in the education of the heart to patience and boundless love of mankind it is the Buddhist. Even among those peoples who are endowed with a minimum of religious conceptions, e.g. among the Japanese, we see how that little serves to frame their lives and give to life a daily consecration which can only proceed from that projection of personality into utter indifference to the mechanical life, raising the courage of death to the dignity of heroism. If Goethe, in *Dichtung und Wahrheit* (Fiction and Truth), says, "it all amounts to this, that we must believe ; what we believe is absolutely immaterial," there we have an exaggeration which he himself admits ; still, it gives expression to the fact that no religion serves as a means for recognition, but that it is only religion, whatever it may be, that gives birth to deeds, to moral deeds, that is to say, that it helps the categorical imperative of duty to break out in any direction whatsoever.

What Kant then proves is that this is the sole office of religion, and that this office would be carried in a far more perfect manner if we had a distinct consciousness of this fact, instead of which at present our religion is just as empirically a matter of chance as our science was a few centuries ago, for which reason up to the present day religion is a two-edged sword, and we may well doubt whether it is not a curse rather than a blessing. What would have happened if men had taken electricity out of nature on purely empirical principles, without forming a theory, that is to say, without forming a human science step by step out of the result of experiments ? We should not have been in safety of our lives for a single

instant ; a monstrous store of power would have been accumulated which, handled with childish unconsciousness, might as easily have become a mischief as an advantage. In these days it is the same with our religions. With equal conviction they call up that which is most sublime and that which is most contemptible, preaching love, and breeding hatred. It is in dogma that the evil conscience of our Doctors of religion reveals itself : that is why they hold to it so stiffneckedly. That Christianity signifies a great moral progress over what preceded it is Kant's conviction, and yet in a historical survey, which by the way I commend to your attention, he is compelled to confess that, " the history of Christianity, if we only look at the spreading of charity which we might expect from a purely moral religion, can in no sense commend it to us " (Rel. 3, 2).¹ It is a history of unspeakable cruelties and of a crazy waste of strength ; and it is worthy of remark how Kant, whose experience was of more tolerant times than ours, none the less had no confidence in that peace, for he said, " the root of no-peace lies in the principle of a despotically ruling ecclesiastical faith, and makes us fear that what has happened before may happen again." To this is appended the commentary, " the history of Christianity, raised upon belief in historical fact, could not have any other result."

Kant then does not, according to the modern fashion of speech, seek for the replacing of religion by something better, nor does he deny the services which the religions have rendered to mankind ; but he reveals the reason why the same faith which purifies and steels a man, at the same time narrows his mind and unmans him. At the same time he shows us in what direction we must turn our mind in order finally to win true religion, " cleansed from the stupidity of superstition and the delusion of fanaticism " (Rel. 3, 1, 4). It is impossible that this should ever succeed unless the dry critical

investigation of reason should have gone before, unless we have clearly recognised what religion is within the boundaries of mere reason. For, as history shows, and as the explanation of the problems of our being, prepared by Plato and worked up by Kant, shows, herein lies the critical point of all life. "All interest is in the last instance practical," says Kant. Science gives form to nature: in religion we form ourselves. Hence the importance of religion; hence also the immense danger which it contains.¹⁵⁷

This is not the moment to go more deeply into this central question of all being: I must be satisfied if I have succeeded in leading you into the way and the direction pursued by Kant's thoughts. I will only add one thing; Kant never imagined that religion could be contented to remain within the boundaries of reason: 'on sending to a friend a copy of his work, *Religion within the Boundaries of Pure Reason*, he writes, "I do not say that reason dares to assert that it is sufficient for itself in matters of religion" (*Letters*, 2, 416). The man who would bring such an accusation against him does not understand him. What we have said proves that, according to Kant, religion indeed springs out of a requirement of reason, but only becomes religion in the domain beyond "mere reason"; its whole essence is illustration. Kant will also tell you, "if we are dealing not only with the conception of duty, but also with the following of duty, if we ask . . . what man will do,—not what he ought to do; then love, as a free acceptance of the will of another under maxims laid down by him, is an indispensable complement of the imperfection of human nature. . . ."¹⁵⁸ None the less it is clear that reason, in the interest of which religion arises as well as science, must know exactly what it wishes, what it may do, and what it must do. If we have once reached such a length that we know what true religion is, and if we are thus enabled to *will* it, then

will arise the question of form in which this religion can realise itself. And there Kant without any tinge of fanaticism, yet with deep conviction, points to Jesus Christ, and that with all the detail that could be desired. By the Christian religion Kant understands the words, the turn of mind, the life of Jesus Christ, "a doctrine, the corroboration of which rests upon a tradition preserved indelibly in every soul, and which needs no miracles to make it acceptable: if only in regard to the application of these historical accounts we do not insist upon it as part of religion that the knowledge of, belief in, and recognition of them, is in itself something by which we may find favour with God . . . we should have to accept that the belief in, and repetition of, incomprehensible things (a thing which every one can do without thereby being or becoming a better man) is the way and the only way to please God; an allegation which we are bound to resist with might and main" (Rel. 2 st. genl. notes).*

In order that religion—(as pure reason critically conceives this idea)—may grow into a living visible religion, it cannot dispense with examples, as opposed to dogma. Ideal religion must be the religion of experience; in that way it becomes imperishable, and at the same time capable of endless development. Not dogma, but example, is the most living force of all religion.¹⁵⁹ As Kant says, "never will so much be achieved in religion by universal prescriptions as by one example of virtue or holiness."¹⁶⁰ This example Christ furnished, and with it created a completely new religion. Life is at once being and the process of coming into being; it is always the same and always different, and so is all that is living in life. The question is then, what is Christ to me in my life? If ever He was God to me, never, if I listen to Kant, will He cease to be God to me. What, on the other hand, will change is the conception of God. The example

remains and works ; the dogma is a word,—at most a changing thought.

Kant, the man in whom, according to our historians, the influence of pietism must have been so deep and ineradicable, is utterly uninfluenced by the different Christian confessions : at most we notice in him a certain leaning towards the Roman Catholic Church, or at any rate a relative respect for it ; he considers it to be more logical, more upright, and more practical than the evangelical sects. " Catholicism is more consistent than Protestantism which calls upon freedom and yet subjects itself to authority . . . the Protestants say, search the Scriptures yourselves, but you must find no more in them than we find." Kant once even goes so far as to complain of the evangelicals, " they all should come back to the flock and its shepherds from which they have strayed " (N. II, 35). You see that the modern catch-word, " Kant the philosopher of Protestantism " only holds good with many limitations, for Kant is the opponent of all " statutory religion " as he calls it. That is why he utters the following remarkable words, which leave nothing to be desired as to clearness, " if once we take over the idea of a divine service not purely moral, but supposed to please God and to propitiate Him—there can be no essential difference in the way of serving Him as it were mechanically which should give the preference to the one or to the other. In value, or rather no-value, they are all the same, and it is mere affectation if, in consequence of a more refined deviation from the only intellectual principle of true worshipping of God, we consider ourselves the superiors of those who incur the charge of supposed coarser degradation by the adoption of a sensuous form. Whether the devotee pays his statutory visit to his church, or whether he undertakes a pi'grimage to the relics at Loretto or in Palestine, whether he offers his prayer to the heavenly host with

his lips or by means of a praying-wheel, or whatever other substitute for the moral service of God there may be, all that signifies nothing and is of equal value. The importance lies not in the outward form, but altogether in the acceptation or neglect of the one and only principle to please God by moral rectitude alone manifested in living actions, or by mere pious play and nugatory exertions. . . . From a Tungus Schaman to the European prelates who rule Church and State, . . . or between the entirely sensuous Vogulitz who in the morning puts the paws of a bearskin on his head, with the short prayer, Slay me not ! and the sophisticated Puritan and Independent in Connecticut, there is indeed a mighty difference in the manner, but not in the principle, of belief. To conciliate the invisible power which rules the fate of men is the intention of them all ; how that is to be attained is the only difference in their thoughts."¹⁶¹ Here the following note is worthy of observation. " In no way do I wish to be understood as if, in contrasting, the various sects, I wished to compare them by undervaluing the one or the other. With their customs and ordinances all are equally worthy of respect, in so far as their forms are the attempts of poor mortals to illustrate the Kingdom of God upon earth ; but they deserve equal blame if they substitute for the matter itself the form of the conception of this idea in a visible Church." We might think that Kant really took too little account of the differences between the confessions ; but he takes a bird's-eye view of them at such infinitely superior heights that we can hardly blame him.

We still have to deal with the practical question whether we can in any way hope that such a recognition as that by Kant of the true essence of religion can ever penetrate the consciousness of men deeply enough to gain informing power. I should like to answer this question by a saying of Kant's : " that something which has not hitherto suc-

ceeded is therefore unable ever to succeed, does not in any case justify the abandonment of a pragmatic or technical purpose, such for instance as travelling through the air by means of aerostatic balloons: still less does it justify that of a moral purpose which unless its effect should have been proved demonstrably impossible becomes a duty."¹⁸² Such matters as religion and science have always been the work of very few men, indeed their main ideas may be traced to single individuals; the important matter then would be to hit upon these few men and convince them. It is not what is commonly called "the people" that we have to fear in this instance, that allows all forms and doctrines to pass over it and clings to its superstition:¹⁸³ but what threatens to wreck the religious revolution is the monstrous secret power of the priestcraft of all confessions. Here we have the true enemies of all pure religion. It cannot be otherwise, for, as Kant shows, "all professional theologians must of necessity lead to the absolute distortion of the great aim." Never did a creative progress in religious conceptions proceed from a priest: the Reformation alone might be quoted against this, but the Reformation is admittedly no more than a reaction towards what had existed before,—an abolition of ecclesiastical abuses,—not a new religious creation, and the reason why it penetrated was in the last instance a question of political considerations directed against the world-policy of the papal chair, and so thus turning the scale: Mohammed is a camel driver, Buddha a royal Prince. In this respect it is very striking that even the sublime religious thoughts of the Brahmins were all, or almost all, brought forward by members of the princely and warrior class, not by the professional representatives of matters of divinity.¹⁸⁴ Jesus Christ appeared as the enemy of the priests, and, gentle as He was, had nothing but hard words for them: "Ye reject the commandment of God that ye may keep your own tradition."

Shall we ever succeed in breaking this anti-religious power, the kingdom of the priests, as Kant calls it?¹⁶⁵ No man who knows the world, and judges thoughtfully, will confidently answer this question in the affirmative. Still, the foundation of a possibility of Victory,—the possibility of a pure, free, true culture,—is being laid for the first time by the clear recognition of the point at issue. This fight is to-day the best that a man can fight ; upon this the whole history of the world hinges.

My last word in this section shall serve to sum it up in one single sentence: Kant's doctrine of religion is no more and no less than the proof in detail, and the methodical development, of Christ's doctrine—"Behold ! the Kingdom of God is within you."

We have reached the end of our journey. I have done what I could to lead you to the knowledge of this personality, whose thoughts, if we are but worthy to have experienced so unique a phenomenon, must herald a new epoch in the history of (European) humanity. I feel a choking sensation in my throat when on looking back I perceive how little I have effected. Nothing but the passion of a truly religious conviction of the value and of the necessity of this philosophy,—only the deepest love and reverence for its august initiator,—could have furnished the courage for the audacity of such an undertaking. They must be my justification and my excuse. If I have inspired you with some measure of love and trust, if you have recognised how simple and how accessible the great thinker is—if I have succeeded in laying in your hearts the unappeasable longing to be near Kant,—so that never again will you be satisfied with phrases and catchwords, or with the corpse-like views of our manuals,—but are yearning to see eye to eye with him, to take to yourselves his thought as the thought of an incomparable friend, to adopt his will as the guiding clue for your will ;—if this

be so, then I shall not have spoken in vain. My hardest task has been that I was forced constantly to appear as though I wished to teach, whereas my only desire was to act as guide—that has been my one aim ; time alone will show whether I have attained it : what we have learnt we can say by heart, what has grown in us proves itself in our own thoughts and deeds.

I shall attempt no summary : such thoughts as these are thoughts with which we must live : a formula may be of service whilst we are working up a matter—I have made use enough of such means—but if on coming to a conclusion we were to come upon a formula, and any summary must necessarily wear this shape,—then we should feel that we have in vain dwelt in the company of the mighty intellects that have led us hither. Every personality is unthinkable, and therefore also unspeakable : it is reflected in its philosophy. Not science, but culture, has been our aim, culture as something higher than science and yet comprising science. What Kant has effected has been described by Goethe as the attempt “ to fix the important affairs of the higher knowledge and of moral action on a firmer basis than had been done before, to require a stricter judgment, consistent in itself, developed out of the depths of humanity.” Here is the sum of his life’s work drawn in moderate language, such as would have been sympathetic to Kant himself : not speculation for speculation’s sake, but only in the interest of “ important affairs ” : not, as is continually and so falsely affirmed, a subjective structure of the imagination, but, on the contrary, a judgment “ out of the depths of humanity, a judgment more consistent in itself ” : wherever Kant uses the word Reason you may, if you please, substitute Humanity, or the fact of being man. Do we know then whether subjects exist ? no more than we do whether there is an objective world. No more is given to us than what we are,—nature and

freedom : out of these depths Kant develops his judgment :—all that is practical, all that aims at intellectual culture, and that means in the last instance the attainment of a cultivated self, conscious not empirically fantastic science, and a cultivated religion, not masquerading in the disguise of superstition, magic, and immorality, turning blessing into a curse. Kant's creed is : " the greatest business of man is to know what a man must be in order to be a man " : to the answering of this question he devoted his life.

These very words painfully re-echo a certain one-sided hardness in Kant's whole nature. Much which is essential towards making a man finds little or no expression in his life and work. With the exception of a few remarks in the first lecture I have taken no notice of this ; these are things which every man can see for himself : the wider development of this may be left to pedants. How could any extreme achievement be effected in any field unless the hero were to sacrifice something of himself ? I believe that not only the religious genius, but rather every man who achieves anything great, sacrifices his life. Kant spent himself almost without cessation in those depths of which Goethe spoke : there, true to duty, he perfected his life's work for us all : he seldom saw the light of the sun, although the passionate interest that he took in the science of the world and of man bears witness to his inmost yearning for it.

Here let me add but one remark which may perhaps express the leading conviction of these lectures : our abstract science, in alliance with our concrete religions, can at best bring about no more than civilisation, and indeed a civilisation which is daily threatening to fall back into barbarism, from which it only differs in degree ; whereas Goethe's ideal of a completely pure philosophy, pure and therefore free from causality, looking upon the process of being as an eternal being (" the world of the eye "), and

Kant's flawless and therefore clearly perceptible recognition of the essence of duty, of religion, and of faith in God,—these two united would lay the foundation of the "possible realm," the highest culture of the human being.

END OF VOL. II.

NOTES

NOTES TO GOETHE

1. All three appeared in Königsberg in 1804 (when Kant died). A reprint in one volume, arranged by Alfons Hoffmann, was published in 1902, in Halle, at 2 marks.

2. Over 2000 up to the time of Kant's death! What, then, may their number be to-day? (Cf. STUDIES ABOUT KANT, I, 469, edited by Von Vaihinger.)

3. DE LA NATURE DE L'HOMME.

4. Cf. e.g. the Preface to the PROLEGOMENA.

5. Concrete examples which might be adduced are: the atomic theory, the idea of gravitation, the metamorphic idea.

6. This leading position did not last long: Comte is a Polytechnic teacher, Lotze a physician, Mill an official of the East India Company, Fechner a biologist, Spenser an engineer and sociologist, Hartmann an artillery officer, Wundt a physiologist, Nietzsche a Hellenist, etc.

7. *Vide* Chamberlain, FOUNDATIONS OF THE NINETEENTH CENTURY, p. 736 *et seq.*

8. THOUGHTS ABOUT OPTIMISM.

9. WHAT IS THE MEANING OF THOUGHT-REGULATION?

10. Various passages in ANTHROPOLOGY.

11. This and following passages are from EFFECT OF RECENT PHILOSOPHY.

12. *Vide* Weimar edition, part II, II, 377.

13. "An attempt to establish a science of meteorology." See SELF-EXAMINATION, and CORRESPONDENCE BETWEEN GOETHE AND ZELTER, V, 381.

14. CORRESPONDENCE BETWEEN GOETHE AND STATE COUNCILLOR SCHULTZ, p. 385.

15. Otto Harnack makes a notable exception to this in his book, GOETHE AT HIS ZENITH (1887). In Vaihinger's STUDIES ABOUT KANT, vols. I and II (1897, 1898), there is an extremely careful and documentarily exact compilation by Vorländer, entitled, HISTORICAL DEVELOPMENT OF GOETHE'S RELATION TO KANT. I particularly recommend perusal of the Appendix (II, 221 *et seq.*), where the exact allocation of

the passages marked by Goethe in his own copies shows how frequently and carefully he must have studied them. He even corrected several printer's errors with his own hand !

16. LETTER TO JACOBI of 10th May, 1812.

17. THE SORROWS OF WERTHER, letter of 10th May, of the first year.

18. Conclusion of ANNALS, 1805.

19. In his OBSERVATIONS ON THE EMOTIONS OF THE BEAUTIFUL AND SUBLIME, Kant says: "The Barbarians introduced a certain perverted taste, called the Gothic, which tended towards the grotesque." This prejudice was so widespread at that time as to require the profound perception of such a genius as Herder to penetrate the fog, and the enthusiasm of Goethe, when a youth, to defend Gothic art with success. Even Herder labelled everything Gothic as "grimacing and old women's tales" before he had come into contact with Gothic art on his travels. (Cf. his DIARY OF TRAVEL of 1769, towards the end.)

20. The splendid THIRD PILGRIMAGE TO ERWIN'S TOMB IN JULY, 1775, must not, however, be overlooked: "How many mists have been dispelled from before my sight, and yet thou hast not vacated thy throne in my heart, O all-pervading Love!" (The MS. is in the series FROM GOETHE'S POCKET-BOOK, Weimar edition, 37, part I, 311 *et seq.*).

21. ON GERMAN ARCHITECTURE, 1823.

22. TRAVELS IN ITALY, 8th October, 1786.

23. OLD GERMAN PAINTINGS IN LEIPZIG, 1814.

24. WEIMAR EDITION, part I, 48, 249.

25. TREASURES OF ART ON THE RHINE, MAIN, AND NECKAR, 1814-1815.

26. ON GERMAN ARCHITECTURE, 1823.

27. VIEWS, PLANS, AND SOME DETAILS OF COLOGNE CATHEDRAL (Remarks on), 1823 to 1824.

28. *Vide* LETTER TO ZELTER of 28, VIII, 1823, and the poem RECONCILIATION, dedicated to the pianist, Frau von Szymanowska in the TRILOGY OF PASSION.

29. ANNALS, 1805.

30. Part II, 173 *et seq.*

31. The statement, to be found in most biographies, viz. that Kant first studied theology, is erroneous. He seems, however, to have intended for some time to study medicine. All the proofs have been collected in Benno Erdmann's MARTIN KNUTZEN AND HIS TIME, 1876, p. 133 *et seq.*

32. SOME IDEAS ON THE REAL APPRECIATION OF LIVING FORCES, preface, § 7.

33. Westminster Bridge was completed in 1750, and its size and beauty excited attention. It was demolished a century later, and replaced by another.

34. Cf. Jachmann, IMMANUEL KANT AS SEEN IN HIS LETTERS, 1804, third letter.

35. Reicke, KANTIANA, pp. 115, 149.

36. THE HAPPY EVENT.

37. THE SENSE OF SIGHT, OBJECTIVELY CONSIDERED.

38. CONTRIBUTION TO KNOWLEDGE OF BOHEMIAN MOUNTAINS, letter to Herr Leonhard.

39. The second lecture treats of Thought and Perception in detail, and the third one of the Senses and the Mind.

40. HISTORY OF BOTANICAL STUDIES, final paragraph.

41. Didactic portion of THE THEORY OF COLOUR, § 181.

42. TENDENCY OF THIS WORK, etc. (in continuation of PLANT METAMORPHOSIS).

43. I do not know whether the number of caudal vertebræ varies; in his admirable monograph, "The Cat, an introduction to the study of back-boned animals," 1881, Mivart says the cat has "about 20"; *my* cat has 16 caudal vertebræ, which, together with 7 cervical, 13 dorsal, 7 lumbar, and 3 pelvic vertebræ, total up to 46.

44. Anatomical specialists, as far as feasible, avoid the expression "primitive vertebræ" to-day, since this allegorical term so disturbs all experimental investigation of actual facts; they almost throughout use the words "primitive segments" (1908).

45. Schiller to Goethe, 23, VIII, 94.

46. TIBIA AND FIBULA.

47. As Goethe, when discussing plants, principally employs the term "metamorphosis," and, when treating of animals, the words "transformative change" or also "comparative anatomy," it might possibly be objected that I had connected things which bore no mutual relation. This objection would, however, be quite unfounded; Goethe laid especial stress on the identical character of his labours and the opinions he based thereon in all the departments of life. Thus, for example, in the ELUCIDATION OF THE APHORISTIC ESSAY 'NATURE,' he draws particular attention to the fact that he had undertaken the "Metamorphosis in the animal kingdom" after "Plant Metamorphosis"; thus he makes a

MS. note in a draft of the HISTORY OF OSTEOLOGICAL STUDY: "Model for an Essay on Vegetable Metamorphosis" (Weimar edition, II, 8, 362); thus in the essay REFLECTION AND RESULT, he applies the idea of simultaneous and successive transformation quite generally; thus, in § 3 of the LECTURES ON THE THREE FIRST CHAPTERS OF A DRAFT COMPARATIVE ANATOMY, he elaborates the same parallelism which I have here attempted to draw, and illustrates it by the same example of the vertebræ. He also gives a comprehensive survey of his study of organisms in his SUPPLEMENT TO THE COLOUR THEORY (first introduction), and partially regrets that the expression "metamorphosis" should have been productive of some misconceptions. In the absence of further adducible proofs, this is sufficient.

48. In the course of the following demonstration we will only examine the plant in so far as it is an annual, and develops uninterruptedly from the seed to full fruitage (PLANT METAMORPHOSIS, § 6). The essential theme of the whole book consists only of the so-called "flower" of the angiosperms, and proof that its component parts are morphologically identical with their foliage, a fact much more satisfactorily established, from the scientific point of view, thirty years earlier, by Caspar Friederich Wolff, without the use of the misleading word "Metamorphosis." (Cf. his THEORY OF GENERATION, 1764, second tractate, § 11, 79, 80, 81, where the THEORIA GENERATIONIS, of 1759, is further developed, and it is shown that "leaves, calices, blooms, pistils, seed-capsules, seeds, . . . are essentially one and the same.") The value of Goethe's little work does not—which is as often stupidly maintained as denied—consist in its importance to science, but its immortal significance lies in being the pioneer of the world of the eye. Goethe himself afterwards stated that the operculum was to be interpreted symbolically. (LETTER TO ZELTER of 14.X.1816.)

49. Cf. Chamberlain, THE FOUNDATIONS OF THE NINETEENTH CENTURY, p. 781 *et seq.*, and the mathematical digression in the third discourse (*infra*) in this book.

50. PRINCIPES DE PHILOSOPHIE ZOOLOGIQUE.

51. THEORY OF COLOUR (didactic portion), § 622.

52. PLANT METAMORPHOSIS, § 69.

53. Cf. Alfred Kirchhoff's valuable work, THE IDEA OF PLANT METAMORPHOSIS ACCORDING TO WOLFF AND GOETHE, Berlin, 1867 (in the annual report of the Louisenstadt Technical

School), p. 20. Albert Wiegand's ANALYSIS AND HISTORY OF THE THEORY OF PLANT METAMORPHOSIS, Leipzig, 1846, supplies a philosophically shallow, yet useful, summary of the historical matter.

54. ED. 1770, VINDOBONÆ, p. 301.

55. Goethe originally had the title HARMONIA PLANTARUM in his mind for his thoughts on plants (LETTERS TO KNEBEL, 18.viii.1787.)

56. ON FANTASTIC VISUAL PHENOMENA, § 181.

57. PLANT METAMORPHOSIS.

58. TRAVELS IN ITALY (second sojourn in Rome).

59. PLANT METAMORPHOSIS, § 73.

60. TRAVELS IN ITALY (second sojourn in Rome, July, 1787, Account of).

61. THE GROWTH OF NATURAL SCIENCE, sketch in the year 1821, Weimar edition, part II, 300.

62. IMPORTANT ADVANCE.

63. Kant discovers an analogy in the difference existing between "keen vision" and "discriminative" vision, with that between a "keen" and a "musical" ear (REFLECTIONS, I, 84).

64. THEORY OF GENERATION, second tractate, § 5 *et seq.*

65. This is expressed somewhat too decisively; because, firstly, historical developments are already hinted at by Grew, a century earlier than Wolff, and, moreover, a fully scientific basis for the said intuitive perceptions was not established till a century afterwards by Hugo von Mohl (1908).

66. MORPHOLOGICAL STUDIES IN ITALY, the original material for observation and thought, which was first made accessible in the Weimar edition, part II, 7, 282.

67. I quoted from TRAVELS IN ITALY; the exact words were contained in a letter of 8th June, 1787, to Frau von Stein, with a request to forward them to Herder (1908).

68. In the only just published MS. material, Weimar edition, part II, 6, 318.

69. EFFECT OF MODERN PHILOSOPHY.

70. *Ibid.*

71. Actual "leaf-roots," so-called "Rhizoides," are actually present in the vegetable kingdom, but they are different morphologically from roots proper. (Cf. Goebel, ORGANOGRAPHY OF PLANTS, 1901, II, 444 *et seq.*).

72. LECTURES ON THE FIRST THREE CHAPTERS OF THE

DRAFT OF A GENERAL INTRODUCTION TO COMPARATIVE ANATOMY, II, 1796.

73. Cf. PURE REASON, second preface, p. xviii, 29.

74. Goethe himself, who hates abstractions, admits: "Things are after all nothing but differences postulated and made by man" (CONVERSATIONS, II, 181).

75. PLANT METAMORPHOSIS, § 120.

76. PRINCIPES DE PHILOSOPHIE ZOOLOGIQUE.

77. For the sake of clearness of connection I here said "experience" instead of "perceptions" and was justified in doing so, because "perceptions make up the whole object of potential experience" (PURE REASON, I, 95).

78. LEÇONS SUR LES PHÉNOMÈNES DE LA VIE, 1878, I, 24, 63.

79. FORMER INTRODUCTION TO MORPHOLOGY, Weimar edition, part 2, § 6, 317.

80. In the edition of 1882, p. 3, Joh. Reinke, in his STUDIES FOR THE COMPARATIVE HISTORY OF THE EVOLUTION OF THE LAMINARACIÆ (p. 7), also says: "Why should we shrink from saying that 'Laminaria saccharina' consists of a simple stem attached at its inferior end and of a leaf standing upright? . . . I do not conceive the object of science to be the bolstering up of blind belief, but the making of ascertained facts clearly perceptible."

81. PURE REASON, V, 759. About twenty years earlier Kant had already said: "It is metaphysically so wide of the mark to say that the first thing known about an object is its definition, that to say it is the last thing is the truer of the two." (INVESTIGATION OF THE CLEARNESS OF THE PRINCIPLES OF NATURAL THEOLOGY AND ETHICS, 2nd observation.)

82. INVESTIGATION OF THE CLEARNESS, ETC., 2nd obs., example.

83. The conditional success of this, and its sufficiency for practical purposes only, can be gathered from Goebel's ORGANOGRAPHY OF PLANTS, p. 10 *et seq.*

84. As early as 1849, Kölliker showed that in the cranium itself there are cutaneous osseous formations whose alleged similarity to vertebræ is merely superficial: but Huxley then proved that the so-called "Primordial cranium," from which the remaining bones proceed, is always produced uniformly and homogeneously. It is true that Gegenbaur's more recent segmental theory afterwards reinstated Oken's

and Goethe's vertebral theory in a restricted sense, because some analogy with a vertebra must necessarily be assumed to exist in every hypothetical segment (Metamer); but he who gives careful attention to § 103 in Gegenbaur's COMPARATIVE ANATOMY OF VERTEBRATE ANIMALS, and then still believes that actual things, and not merely scientific scholastics, are the matters under discussion, possesses that faith by which mountains can be moved, and which must fill every Trappist's heart with envy.

85. THE LEPADS, 1824.

86. INTER ALIA, p. 560.

87. In the face of other authenticated sayings of Goethe's later years, some of which have been and still are to be quoted, I do not think that one mistake of Eckermann's can be altogether excluded. If, however, Goethe actually said "discovered," this would prove that he was only able to overcome his inborn and incarnate idea amidst the absolutely peaceful reflection consequent on literary effort.

88. LECTURES ON THE FIRST THREE CHAPTERS OF THE DRAFTS OF THE GENERAL INTRODUCTION TO COMPARATIVE ANATOMY, STARTING FROM OSTEOLOGY, II (Weimar edition, A. 2, § 8, 71).

89. *Vide supra*, p. 21.

90. THE PROBLEM AND THE REPLY. Goethe seems to have often felt the danger of his idea. The works only recently published contain some warnings at the most various times of his life. Thus Goethe, shortly after publication of the principal work, PLANT METAMORPHOSIS, 1790, began a "second attempt" containing this direct admonition: "The misuse of this idea will entirely mislead us, and rather tend to retard than to advance the march of science." And in the aphoristic remarks which Goethe, to which he was incited by studying Decandolle's ORGANOGRAFIE VÉGÉTALE, he points out that "that first idea, which we consider so valuable, may be of but little assistance, and might rather be a hindrance than a help with respect to the determination of many organisms" (Weimar edition, part II, 6, 279 and 357.)

91. LETTER TO ZELTER of 15.i.1813.

92. Letter to Chancellor von Müller of 24.v.1828, as ELUCIDATION OF THE APHORISTIC ESSAY "NATURE."

93. IMPORTANT ADVANCE THROUGH A SINGLE WITTY AND SIGNIFICANT WORD.

- 94. THE PROBLEM AND THE REPLY.
- 95. THE KAMMERBERG NEAR EGER.
- 96. THE ONLY POSSIBLE REASON FOR PROVING THE
EXISTENCE OF GOD, part II.
- 97. HISTORY OF MY BOTANICAL STUDIES.
- 98. MORE ABOUT MATHEMATICS AND MATHEMATICIANS.
- 99. ANNALS, 1810.

NOTES TO LEONARDO

1. In several passages ; e.g. *THE WORLD AS WILL AND PHENOMENON*, vol. I, § 36. Vol. II, chap. xiii; *Parerga*, II, § 35.

2. According to a note in Hoefer's *HISTOIRE DES MATHÉMATIQUES*, 4 ed., p. 439, Roberval, a contemporary of Descartes', and a well-known mathematician, was aimed at by the silly saying. Of course, it is nothing but the spiteful invention of a joker.

3. Since writing these words (in 1900), fuller study of Schopenhauer's methods of work has brought about very serious results. My attention being aroused by Hermann Cohen and August Stadler, I was convinced that intentional misquotation—although doubtless made under the influence of unconscious suggestion, yet not on that account less successful—is an absolute habit in his case ; he makes prolific use of it in his criticism of Kantian philosophy ; several proofs of this will be adduced in the last discourse. He goes to work in the same way in his disquisitions on mathematics, a fact of which Professor Alfred Pringsheim gave documentary proof in his academic Festival speech, "On the value and alleged worthlessness of mathematics" (Munich, 1904, and with abridged references in the supplement to the Munich *Allgemeine Zeitung*, 14th and 16th March, 1904). In order to obtain decisive testimony for his depreciation of mathematics, he falsifies Baillet (Descartes' biographer) ; he falsifies Descartes, and also falsifies Georg Christian Lichtenberg. In this way he cunningly manages to make Descartes—one of the greatest men of mathematical genius of all time—and Lichtenberg—an eminent physicist and astronomer—appear to speak slightly of mathematics. After a detailed exposure in Descartes' case, Pringsheim comes to this conclusion, viz. : "The fact that Schopenhauer, in spite of everything, dared to quote this great mathematician as one of his witnesses for the worthlessness of mathematics, must be said to be an unheard-of and in-

famous historical forgery" (p. 18). For fuller information I refer the reader to the aforesaid Festival speech and also call his attention to the fact that the words quoted in Baillet's biography are almost word for word taken from Descartes' *RÈGLES POUR LA DIRECTION DE L'ESPRIT* (éd. Cousin, XI, 218 *et seq.*), which neither Schopenhauer nor his authority, Hamilton, knew, and Pringsheim seems for the moment to have overlooked.

4. INSTRUCTION IN MAKING MEASUREMENTS WITH THE CIRCLE AND T-SQUARE, 1538, folio A. 1.

5. From Jean Paul Richter's edition of *SCRITTI LETTERARI DI LEONARDO DA VINCI*, § 653. (Quoted in future as R.)

6. LEONARDO DA VINCI'S BOOK ON PAINTING, edited, translated, and explained by Heinrich Ludwig, 1882, § 16. (Quoted in future as L.) Here I once for all remark that I have in general taken the Italian text as I found it in the copies to hand, and it is therefore sometimes modernized and sometimes archaic and—according to the ideas of to-day—unorthographic.

7. *LES MANUSCRITS DE LÉONARD DE VINCI DE LA BIBLIOTHÈQUE DE L'INSTITUT*, PUBLIÉS PAR CHARLES RAVAISSON-MOLLIEN, F, folio 41, recto. The various MSS. are marked from A to M. (Quoted in future as R.M.)

8. R.M., F, folio 5 recto. "There are many stars which are many times larger than the star which we call the earth." To the best of my knowledge no one has so far called attention to the fact that the expression *molte stelle* seems to prove that Leonardo believed not only in the actual size of the planets but also of the fixed stars, and thus showed himself greater in this respect than Copernicus.

9. Cf. R.M., A, folio 64 recto, F, folio 41 recto, R., § 858, etc.

10. R., §§ 848 and 850. *Vide* also the careful drawings of the interior anatomy of the heart in R.M., G, 1 verso, which prove that Leonardo's opinions were based on careful dissection.

11. *Vide* chiefly Gabriel Séailles, *LEONARDO DA VINCI L'ARTISTE ET LE SAVANT*, Paris, 1892. Recently Marie Hertzfeld's book, *LEONARDO DA VINCI, THINKER, INVESTIGATOR, AND POET*, has appeared, containing a selection of his writings, and said to have a comprehensive introduction.

12. *Vide* L., § 831, and generally the whole of part 6, *DE LI ALBERI ET VERDURE*, where there are acute observa-

tions on many of the complex questions with regard to ramifications, inflorescences, homodromy and heterodromy, etc., with which the nineteenth century has been occupied.

13. LETTER TO LODOVICO IL MORO (R. II, 396).

14. ON MATHEMATICS AND THEIR ABUSE.

15. MORE ABOUT MATHEMATICS AND MATHEMATICIANS.

16. Cf. *supra*, p. 97.

17. APHORISMS ON NATURAL SCIENCE.

18. I advise those who prefer to wander on different, concrete, paths, in order to arrive at the same result, to read Wilhelm Wundt's little book, AXIOMS OF PHYSIOLOGY AND THEIR RELATION TO THE PRINCIPLE OF CAUSALITY, 1886, where the historical origin and inevitable truth of the basic axiom: "all natural causes are causes of motion," are expounded with amazing clearness. The physiologist, Adolf Fick, also explains that the sense of space and the sense of time in combined operation create "a sense of velocity," in § 13 of his TEXTBOOK OF THE ANATOMY AND PHYSIOLOGY OF THE SENSE-ORGANS.

19. Empty space would do just as well, if we only chose to conceive a continuity of interacting motions.—In a speech made at the Jubilee celebration of his fiftieth year of professorship, Lord Kelvin said: "I cannot suppress the conviction that we are on the road to a comprehensive idea of matter in which all its qualities will be regarded only as attributes of motion." (This quotation, as well as the one from Armstrong's book, is taken from the certainly reliable reports of the English periodical NATURE.) The physicists led the way, and now the chemists are already following in their footsteps. Ostwald, with respect to theoretical problems, one of the ablest living German chemists, defines as follows: "Matter is nothing but the sum of magnitudes of energy distinguishable in space" (STUDY OF ENERGETICS, II, REPORTS AND PROCEEDINGS OF THE ROYAL SAXON SCIENTIFIC SOCIETY, 1892), and in his MAIN LINES OF INORGANIC CHEMISTRY, 1900, p. 19 *et seq.*, he repudiates the hitherto usual expressions "conservation of substance" or "conservation of matter" and substitutes for these the idea "conservation of ponderability." For, as he says, by "matter" one understands vaguely something endowed with all corporeal attributes, and this indeterminate something is better expressed by simple magnitudes of energy—that is, partly perceptible, and partly potential, motion.

20. ON FANTASTIC VISUAL PHENOMENA, 1826, § 186 and § 188 (the latter is a misprint for 34).

21. GOETHE AS NATURALIST, 1861. This excellent work must be recommended to all Goethe students even to this day.

22. MECHANICS, vol. 59 of the Library of International Science, 3rd edition, 1897, p. 472 *et seq.*

23. My brother, Basil Hall Chamberlain, points out that Mach's explanations are in general based on ignorance of the facts; for Chinese writing is in reality not ideography, and it is just this script which, more than any other in the world, is very fertile in suggestive side-values, and for its complete comprehension presupposes thorough familiarity with an extremely rich form of culture (1908).

24. ON MATHEMATICS AND THEIR ABUSE.

25. LETTERS TO ZELTER of 11.iv.1825; 10.vii.1828; 1.xi.1829.

26. In KÜRSCHNER'S EDITION OF GOETHE, vol. 35, preface, p. 30. The sentence: "Goethe starts just where natural philosophy stopped short," is not perhaps very well chosen; natural philosophy neither leads up to Goethe, nor Goethe to natural philosophy; the slip of the pen might lead the inattentive to suppose so.

27. In the essay, ON ERNST STIEDENROTH'S PSYCHOLOGY.

28. HANDBOOK OF PHYSIOLOGICAL OPTICS, edition of 1867, p. 268.

29. Whewell, the historian of the inductive sciences, also confesses his belief that everything in physical science depends principally on the definite and firm control of abstract ideas. (HISTORY OF THE INDUCTIVE SCIENCES, ed. 1857, I, 282).

30. PRINCIPLES OF MECHANICS, Introduction, pp. 1 and 2.

31. At the end of his days (towards 1830), Goethe expresses a similar view in his own way: "It will always on strict examination be seen that one presupposes what one finds, and finds that which is presupposed. The naturalist must not be ashamed as a philosopher to move this way and that in this oscillating system, and to make himself understood where the scientific world fails to come to a definite conclusion." (Weimar edition, part II, 6, 351.)

32. DISCOURS PRÉLIMINAIRE DU TRAITÉ DE DYNAMIQUE, 1st paragraph.

33. The educated layman will find reliable scientific information about the theory of "electrons" in Lorentz,

VISIBLE AND INVISIBLE MOTION, 1902, chap. VI. Æther is still the effective agency according to this theory, which is based on the vibration of the electrons and not of the æther, so that the idea is actually quite new. But I am of opinion that it is also very artificial and coarse, and therefore inadequate. (1908. For exact information about the views at present held by the most eminent physicists, I recommend in particular P. Lenard's Nobel-lecture ON KATHODIC RAYS, 1906.)

34. Kant draws attention in his inimitably simple way to the fact that "dull, limited intellects" are just those which, lacking a proper amount of understanding and original ideas, show a peculiar aptitude for becoming fitted to be specialists (*v.* PURE REASON, p. 173, Notes). Therefore, he says, "it is not unusual to come across very learned folk who allow their incorrigible want of power of judgment in the use of their knowledge to be apparent." We ought to learn how to discriminate between *savant* and *savant* as we do between priest and priest, and bestow our admiration and confidence only on the few truly eminent minds.

35. PRINCIPLES OF MECHANICS, p. 15.

36. The quotation (and *inter alia*, p. 31) is given *literatim et verbatim*; Helmholtz not infrequently makes use of such a peculiar construction as, "Light differs from other light."

37. In the most favourable case a normal eye can discriminate from 160 to 165 shades within this limited scale. (Cf. Arthur König, COLLECT. DISC. ON PHYSIOLOG. OPTICS, 1903, p. 368).

38. Cf. Höfler, PSYCHOLOGY, 1897, p. 115.

39. By Adolf Wüllner, Edition of 1879.

40. Helmholtz, LECTURES AND SPEECHES, Edition of 1884, I, 279.

41. Cf. ON FANTASTIC VISUAL PHENOMENA, §§ 7, 10, 11. Clearly the assertion that "colour is length of vibration" has not even as much value for knowledge of the nature of colour as the well-known saying of the man who was born blind, that he imagined red to be like the sound of a trumpet.

42. This is also true of textiles. The dazzlingly white cloaks of certain Austrian uniforms turn dirty light yellow directly freshly fallen snow covers the ground. Cf. Goethe, COLOUR THEORY, § 690.

43. RECHERCHE DE LA VÉRITÉ PAR LES LUMIÈRES NATURELLES, ed. Cousin, XI, 370.

44. COLOUR THEORY, introduction.

45. THE ONLY POSSIBLE REASON FOR PROVING THE EXISTENCE OF GOD, 4, II.

46. Goethe also hazarded the thought that it might be "the same Ens," which now is manifest as light, now as magnetism, now as electricity and again as chemical action; I only refrained from quoting it in the text, because the actual words as given by Riemer seem doubtful. (LETTERS FROM AND TO GOETHE, etc., p. 302).

47. *Vide* e.g. the splendid lecture by the ophthalmologist, Jacob Stilling, in the STRASSBURG GOETHE LECTURES, 1899, p. 147 *et seq.* Stilling justly says that what is to-day held to be most recent with respect to the colour-theory, means a return to Goethe. He says: "Goethe's theory of colour is more than saved" [as also Classen in, ON KANT'S INFLUENCE UPON THE THEORY OF SENSE-PERCEPTION, 1866, p. 241, exclaimed "the physiological portion absolutely contains the foundations on which the most recent views are based."]. For looking at the physiologist, Rudolf Magnus' book, GOETHE AS NATURALIST, 1906, lectures 7 and 8, on page 258, one reads: "The physiological optical science of the nineteenth century traces directly its roots back to Goethe's theory of colour."

48. HUMAN UNDERSTANDING, IV, 7, § 11.

49. THOUGHTS ON REASON, SUPERSTITION, AND INFIDELITY.

50. The recklessness with which Darwin frequently treats facts is beginning to be increasingly recognised. I specially refer to Albert Fleischmann's book, THE THEORY OF DESCENT, 1901. And André Sanson's L'ESPÈCE ET LA RACE EN BIOLOGIE GÉNÉRALE, 1900 (*v.* e.g. p. 124), contains some quite brilliant instances, not only of false conclusions, but of very serious misstatements of fact.

51. Cf. Descartes, in particular PRINCIPIA PHILOSOPHIÆ, 1664; Kant, METAPHYSICAL PRIMER OF NATURAL SCIENCE, 1786, and Hertz, TREATISE ON THE PRINCIPLES OF MECHANICS IN THEIR NEW CONNECTION, 1894. Hertz really occupies the same standpoint as Descartes plus the profundity of mathematical thought, and the increased experience which two and a half centuries have brought in their train. I am convinced that, in the general view, the mechanical will carry off the palm of victory from the dynamic conception in the future as it has done in the past; for mediocre minds are as little sensible of the absurdity of their assumptions as the Congo black is of his belief that the medicine man can make the

rain come, and the former method has the advantage of having, with a few exceptions, stripped itself of all ideas, and being able to enjoy itself to the full in the field of mathematical abstractions, where every average brain, which has learnt to do some summing, is capable of following without the necessity of actually thinking: whereas the dynamic conception is founded in geometrical ideas; however abstract the idea, it must needs still be real, and this—the spontaneous projection before the inner eye—is a demand to which only the minority can respond.

52. The energetic idea might, perhaps, be left unmentioned, as it is obviously only intermediate. It is clear that those physicists who form a third group, in so far as they only assume space and motion but not substance, belong to the dynamic school of thought.

53. It is, however, always worth noting that the assumption of the physicists, which explains the colours of the prism from the assumed variation in velocity of vibratory duration (or colour), does not correspond with an unalterable mechanical law, according to which the velocity of propagation cannot possibly be dependent on wave-length. Such logical contradictions meet us in all the basic ideas of the so-called "exact sciences"; science properly passes on to the "order of the day"; but it is just here that the thinker finds the point of attachment for the weightiest intuitions with regard to the essential nature of human knowledge.

54. Were our spirit of invention not so miserably undeveloped, and did not every happy inspiration act detrimentally on the birth of additional inspiration, many other facts than prismatic calculation might be made the starting-point for a science of mathematical optics; but they would all agree, in that they originated in theories of motion and led to mathematical schemes.

55. In this place I did not consider it suitable to mention "time" as the second form of pure sensual perception, for reasons which can only be expounded at the close of the following discourse. But, for the attentive reader's benefit, I will here interpolate that which can only be made clear much later on towards the end of the book, viz.: that the idea of "pure perception" is only a scientific abstraction (Cohen, KANT'S THEORY OF EXPERIENCE, part II, p. 320), or, in other words, a methodological assumption on which to base the comprehension of Reason. Pure perception can

in reality no more take place spontaneously and independently of experience than a sensual perception can take shape otherwise than in terms of space. The value of Kant's analysis is shown in its proved practical application, and e.g. eminently just here in the exact and quite intelligible possibility of discrimination it affords between Nature as Goethe saw her, and Nature as seen in the light of mathematical science.

56. This is obvious to anyone familiar with the subject ; I refer those in doubt to Classen, who, in his two books, *PHYSIOLOGY OF THE SENSE OF SIGHT*, 1876, and *ON KANT'S INFLUENCE ON THE THEORY OF SENSE-PERCEPTION*, 1886, proves the point in several passages, in spite of the unqualified respect he has for Helmholtz's undying services to science ; on page 68 of the latter work, he shows that Helmholtz never knew the real sense in which Kant used the expression *a priori* ; he confuses the " forms " of perception and thought, without which we could neither see nor think, with intuitive knowledge and innate ideas. . And, similarly, our entire psychological psychology—the highest reputations included—stands on the same level of a childish want of understanding. And, in addition, I refer to Ludwig Goldschmidt's *KANT AND HELMHOLTZ*, 1898, a book with which I, to my regret, only lately made acquaintance ; those seriously interested will there find satisfactory information.

57. *TIBIA AND FIBULA*.

58. *COLOUR THEORY*, Introduction.

59. Cf. the experimental researches made by Shelford Bidwell and reported in the *PROCEEDINGS OF THE ROYAL SOCIETY*, vol. 60 *et seq.*

60. *SIEGE OF MAYENCE* (towards end of).

61. Leonardo, like the most modern of us moderns, added black and white (with, however, explicit restriction to their use in practice). I quote the chief passage : "*I semplici colore sono sei, de' quali il primo è il bianco, benché alcuni filosofi non accettino il bianco ne'l nero nel numero de colori, perche l'uno è causa de colori, e l'altro n'è privatione. Ma pure perche il pittore non po fare senza questi, noi li meteremo nel numero degli altri, e diremo il bianco in questo ordine essere il primo ne' semplici, e il giallo il secondo, e'l verde n'è'l terzo, l'azzurro n'è'l quarto, e'l rosso n'è'l quinto, e'l nero n'è'l sesto*" (L., § 254). This view and arrangement of genuine colours is in precise correspondence with Goethe's theory. And, in

the same way as Goethe in his ATTEMPT TO DISCOVER THE ELEMENTS OF A THEORY OF COLOUR, §§ 1-16 (contained in Hempel's edition only, vol. XXXV, p. 49 *et seq.*, and Weimar edition, part II, 5, 129 *et seq.*), set forth the reasons why black and white cannot be taken as real colours, and thus classified, Leonardo also devotes a particular section to "*Perche'l bianco non è colore ma è in potentia recettiva d'ogni colore* (R.M., F folio, 75 recto), in which the colour of white is essentially distinguished from others. If now, one considers the remaining numerous passages where Leonardo occasionally mentions green, for example, as a self or primary colour, which is admittedly in practice produced by a mixture of yellow and blue pigments, but solely because these already contain a certain quantity of green, and then, again, of red, and yellow, and blue, it cannot be denied that, although he is writing for painters, and therefore emphasizes the practical side, yet—in his own way—he actually has the idea of "primary colours" and adheres to it very firmly. Professor Mach's remarks in opposition to Leonardo's (in the former's ANALYSIS OF SENSATION, 2nd ed., 1900, p. 51) turn out to be the merest sophisms; because the only true thing in them is that Leonardo did not commit the same error as himself, viz. of placing black and white in the same category of values as the other colours, an error from which he was saved by the keen truthfulness of his sense of sight. Leonardo is specially reproached with "making a hobby" of research. Is, then, the "winter of our discontent" an indispensable state of mind for the observation of Nature?

62. SEQUEL TO COLOUR THEORY, § 4, COLOUR THEORY, § 705, etc.

63. COLOUR THEORY, didactic part, introduction, § 696, etc. Even from the purely psychological point of view Goethe is right. Arthur König's investigations prove that the sensation of grey is caused by greatest dilution of visible violet; if the dilution is lessened, the result is the sensation of blue, or the nearest approach to complete obscurity or entire absence of light (*v. König, COLLECTED TREATISES ON PHYSIOLOGIC OPTICS, p. 354 et seq.*).

64. COLOUR THEORY, didactic part, § 523.

65. *Ibid.*, § 793.

66. SOME GENERAL CHROMATIC PROPOSITIONS, Weimar edition, part II, 5, 93.

67. COLOUR THEORY, introduction.

68. COLOUR THEORY, didactic part, § 752.

69. PRELIMINARY STUDIES TO THE PHYSIOLOGY OF PLANTS, Weimar edition, part II, 6, 302.

70. All this is necessary for the fuller comprehension of the term "mathematics." To-day the term "universal mathematics" is meant to convey every kind of definable deductive succession, without the necessity for taking into account number or substance (v. Whitehead, UNIVERSAL ALGEBRA, p. vi *et seq.*; details in the Plato lecture).

71. The justification of this is shown in the following utterance by the famous French chemist, Berthelot: "*C'est en vain que notre pensée s'efforce de représenter le monde par la superposition de lois simples, purement mathématiques, qui dans la réalité ne se superposent que d'une façon incomplète, et ne se combinent jamais absolument. Un tel à peu près n'est pas dans la nature; il est dans la représentation que nous nous en faisons.*" (Lecture at the French Academy of Sciences on 22.xii.1896.)

72. COLOUR THEORY, Introduction.

73. CRITICISM OF HERDER'S IDEAS ON THE PHILOSOPHY OF HISTORY.

74. Cf. Chamberlain, THE FOUNDATIONS OF THE NINETEENTH CENTURY, p. 775 *et seq.*, 884.

75. Walter Pater, THE RENAISSANCE (ch. on Leonardo da Vinci, p. 106).

• NOTES TO DESCARTES

1. DE L'INFINITO, UNIVERSO E MONDI, 5. Dialogue (Lagarde edition, p. 399). "The harvest of the mind was gathered nowhere else than from this our own mind itself!"

2. "No problem calls more vehemently for a solution than the problem of the nature and the limitations of human knowledge. . . . To me nothing seems more laughable than boldly to undertake to explain the mysteries of Nature without having once found out whether the mind of man is capable of receiving them." (RÈGLES POUR LA DIRECTION DE L'ESPRIT, § 8, XI, 245). Where not otherwise stated, all references are from Cousin's French edition, in XI vols., of Descartes' collected works, 1824-1826.

3. DISCOURS DE LA MÉTHODE, part III, I, 153.

4. Cf. DISCOURS DE LA MÉTHODE, near the close of final part.

5. Cf. the preface to the PRINCIPIA.

6. If Kant, then, blames Descartes for his "conclusion by inference" (PURE REASON, 422 and I, 355) it is due to misapprehension. I needed not in my lecture to touch upon the fact that the specialist will disagree with Descartes as to the present discussion being about the "idea," whereas, strictly speaking, "perception" is the theme.

7. Cf. also I, 202: "*L'obscurité des distinctions et des principes dont ils se servent est cause qu'ils peuvent parler de toutes choses aussi hardiment que s'ils les savaient, et soutenir tout ce qu'ils en disent contre les plus subtils et les plus habiles, sans qu'on ait moyen de les convaincre.*"

8. Cf. preface to the PRINCIPIA PHILOSOPHIÆ.

9. DIGRESSION SUR LES ANCIENS ET LES MODERNES; quoted from Sainte-Beuve, Port Royal, 4th ed., V, 354.

10. It is interesting to note how this sworn foe to every philosophical world-concept, this insensate champion of an absolutely utilitarian, cut and dried, "Science," has remained so dear to the hearts of our specialists in philosophy. He is still always extolled in every philosophical text-book

as the founder of a New Era, whereas the naturalists have long since proved ; firstly, that the Baconian method is not the method of exact natural investigation, and secondly, that recent methods of natural science were already practised in Bacon's times and led to brilliant results, but upon which—calling to mind the life-work of Copernicus, Galileo, Harvey, Gilbert, etc.—Bacon poured ridicule, being, as he was, entirely incapable of so much as grasping even the essential of natural science. One need only, on this point, specially compare Justus Liebig's three works of the years 1863 and 1864 (printed in his *SPEECHES AND TREATISES*), to find them, once for all, conclusive, no matter whether our philosophers are satisfied or not. Goethe passed a delightful judgment on Francis Bacon : " He is the chief of all the Philistines, and, for that reason, they all agree with him " (*CONVERSATIONS*, 13.x.1907).

11. *Vide e.g.* the *Œuvres Inédites* published by Foucher de Careil, II, 171 *et seq.*

12. Cf. Letters (1631) VI, p. 204 ; (1638) VII, 436-437 ; (1642) VIII, 567, and IX, 113 ; on Pascal, X, 344, 351. I have meanwhile been informed that in the *BULLETIN DE L'ACADÉMIE ROYALE DE BELGIQUE, CLASSE DES LETTRES*, 1889, pp. 632-644, G. Mouchamp drew attention to a hitherto unprinted letter, which incontestably proves that the idea of measuring barometric pressures emanated from Descartes, and that Pascal's experiment only followed the suggestion made by Descartes (cf. *DEUTSCHE LITERATUR ZEITUNG*, 2.vii.1902, Collection 1975). An expert points out the following fact to me, namely, that, according to L. Edinger, *LECTURES ON THE CONSTRUCTION OF THE CENTRAL NERVE-ORGANS OF HUMAN BEINGS AND OTHER ANIMALS*, 5th edition, p. 13, " the oldest pictures of cerebral convolutions and fibres are given in Descartes' *TRACTATUS DE HOMINE*, 1662."

13. The fact that people exist, who, like Mach (*MECHANICS*, 3rd edition, pp. 248, 275, etc.), would fain snatch this credit from Descartes, although even such narrow-minded and inveterate contemners of this great thinker such as Whewell (*HISTORY OF THE INDUCTIVE SCIENCES*, 3rd ed., II, 20 *et seq.*) would not have dared to commit such an outrage on historical truth, only deserves to be mentioned because it proves how little the real personality of Descartes, and its incomparable endowments and limitations are generally known. Nobody acquainted with Descartes' individuality will dream of com-

paring his achievements in the experimental establishment of actual facts with Galileo's; but, if Mach imagines he can wipe out Descartes' services to science with such a sentence as: "Descartes elaborated Galileo's ideas in his own fashion," he unconsciously falsifies history. Descartes' book *LE MONDE* was already ready for the press early in 1633 (*vide* the letters to Mersenne of March and April, and of 22nd July, 1633, VI, p. 224; 230, 236), and in this the so-called law of inertia or law of permanence is expressed with perfect clearness as the *première règle* (IV, p. 254 *et seq.*), as well as rectilinear motion (*troisième règle*, p. 259 *et seq.*), as the whole so-called "first Newtonian law" (cf. also Clerk Maxwell, *MATTER AND MOTION*, § XVI). The law, too, of the quantity of motion (= mass multiplied by velocity) which even to-day continues to play so great a part in our mechanics, has its place in this early work (*seconde règle*). But Galileo's *DISCORSI ET DIMONSTRAZIONE* only appeared in 1638 and, as can be proved, Descartes only had his book about the Copernican system (published 1632) in his hands in August, 1634, and then only once for a single day on loan (*v.* letter to Mersenne of 14th August, 1634, VI, 247). And, furthermore, we should note that Descartes at least discovered the general principle of the law of gravitation independently of Galileo; he did not know it in June, 1631 (VI, 185); yet he was working at it then, and rejoices in 1634 when he finds the assumptions he has meanwhile made confirmed experimentally by Galileo (VI, 248). It is, however, in the teeth of the aberrations of worthy men like Whewell and Mach, consoling to observe that every man of undoubted genius—in the ranks, too, of physicists and mechanicians—such as Clerk Maxwell and Heinrich Hertz, appreciate the undying importance of Descartes at its proper value.

14. I, 124; III, 21; and cf. letter of 15th April, 1630, in which he hopes to compose his system of the universe so, "*qu'on le pourra lire en une après dinée*" (VI, 101).

15. Even a Whewell admitted and proved that this discovery was indisputably and inalienably his own (I, ch. II, 280 *et seq.*) as against the attempts which, dating from early Newtonian days, were made to snatch the fame of this achievement from him in favour of some obscure specialist.

16. *RÉFLEXIONS ET MAXIMES*, No. 279.

17. *Vide*, e.g. vol. I, 204; III, 31; IV, 264, etc.

18. Here I am only speaking of Descartes' philosophic

idea of God; otherwise our thinker was a lifelong anti-fanatical, yet true, son of the Church to which his ancestors held fast.

19. Knowledge of the sections dealing with stellar motion, such as the third book of the *PRINCIPIA*, or the 5th chap. of *LE MONDE*, etc., are not sufficient for an understanding of Descartes' ætheric theory, which he sets up in full knowledge of its sharp opposition to atomism; the most important passages are those in which he treats of the nature of light, I mean the whole first section of the *LA DIOPTRIQUE*, and chap. XIV of *LE MONDE*; many important passages are contained in the correspondence, e.g. VI, 56, 104, 204 *et seq.*, 278, 343 *et seq.*, 355; VII, 241, 289; IX, 348, 351; *vide* also "Règle XII," XI, 277.

20. Communicated by Foucher de Careil, *LETTRES INÉDITES DE DESCARTES*, II, 236.

21. Here the formula runs thus: The quantity of energy in the universe is constant. Although we also speak of an energy of position or potential energy, and differentiate this from kinetic energy or the energy of motion, this only shows that Descartes' idea was so indispensable as to give us courage to confront all petty sophisms, and, as it were, to open an account with Nature as our banker; if now we skilfully operate with the "debit" and "credit" of the current account, the balance is always a true one; the mind of man can ask no more. Far as it may be from me to want, or even to be able, to write a learned book, I would yet like to protect a remark like the above against anticipated objections, and I do so by reference to the text-book on the *PRINCIPLES OF MECHANICS*, which is more inspired by genius than those of recent date written by Heinrich Hertz. Here we read in § 607: "The kinetic and the potential energies of a conservative system are to be distinguished, not by a difference in their nature, but only by the standpoint voluntarily assumed by our idea or the involuntary limitation of our knowledge as to the substantial quantities contained in the system. The same energy which can be called potential at a certain stage of our knowledge may have to be called kinetic when the point of view of our idea changes." Now, the specialist may perhaps object that these words only apply to what in mechanics are known as "conservative" and not to "dissipative" systems and that, strictly speaking, in Nature we only know the latter. But in that case I refer

him to § 665: "And, furthermore, the difference between conservative and dissipative systems and forces does not consist in Nature itself, but depends solely upon the voluntary limitation of our idea and the involuntary restriction of our knowledge of natural systems. If we consider all substances in Nature to be visible substances, every difference ceases to exist, and all natural forces can then be said to be 'conservative' The latter assumption is the foundation of the natural science of energy of to-day, and although—*pace* the above—it is in our own power to determine what we wish to regard as being either potential or kinetic, the fact remains that in the idea 'energy' we must always understand two, and two quite different, forms of energy, for which we shall never succeed in finding one unambiguous definition" (*vide* the book above referred to, § 26 of the Introduction. The idea of potential energy gains great clearness by Perrin's dictum: "*L'énergie potentielle doit être regardée comme localisée dans l'éther*" (LES PRINCIPES, 1903, § 115).

22. III, 506 *et seq.*, 525; IV, 313 *et seq.*; V, 6 *et seq.*; 271 *et seq.*; VI, 345; VII, 241, 280, etc.

23. II, 356; III, 507 *et seq.*; V, 64; IX, 377 *et seq.*, etc.

24. The hypothetical substance assumed by Descartes which he sometimes names "*éter*" and more often "*matière subtile*," filling all space, must not be confused with the "æther" of the ancients and the schoolmen—from Heraclitus to Bruno; in Descartes' case—and beginning with him—what is in question is a concrete scientific idea, and it corresponds in detail with Kant's definition of matter as being "that which pervades, penetrates, and sets the entire universe in motion." The most important passages in Descartes' works from which to gather accurate knowledge of his idea of æther are: TRAITÉ DE LA LUMIÈRE, chaps. II, XII, XIV LA DIOPTRIQUE, I. Discours (this passage is particularly clear), LES MÉTÉORES, I. Discours, PRINCIPIA, II, § 18 *et seq.*, III, from § 24 onwards, IV. There are also numerous enlightening remarks in the letters; special attention should be given to vols. VI, 278, 343 *et seq.*; VIII, 241, 289; IV, 348 *et seq.* It is interesting in this place to note that Lord Kelvin's latest expositions (at the British Association, Glasgow, 1901), with regard to the entire imponderability of æther, coincide exactly with those of Kant, whose doctrine was that æther must be thought of as being "imponderable, incompressible, incohesive, and inexhaustible." "It must,"

says Kant, "be a substance which has the quality of rendering ponderability possible in practice (Descartes!) without itself having any weight,—compressibility, without being subject to external pressure,—cohesion, without having any internal interdependence,—and, finally, an all-pervading substance which can neither be exhausted nor diminished and which fills the whole of space" (TRANSITION, I, 122 *et seq.*). Lord Kelvin does not go quite so far as this, his whole attention is centred on Imponderability, and he says: "One cannot refuse to call ether matter, but it is not subject to the Newtonian law of gravitation. It is a distinct species of matter, which has inertia, rigidity, elasticity, compressibility, but not heaviness" (*Vide* NATURE of 24th October, 1901, and also PHILOSOPHICAL MAGAZINE for August, 1901). But this admission of necessary absolute imponderability signifies an important and decisive step; a few years or perhaps, even a few months ago, laughter would have greeted a similar statement; all it meant was that æther was only very light indeed, and the thirst for more exact information was quenched with this soothing reply: "fifteen trillion times lighter than atmospheric air"; the idea of absolutely weightless "matter" would have seemed nonsense to our materialist friends. Now, however, the mathematical physicists have spoken, and the other predicates postulated by Kant will soon follow; then only will æther really be "*æther*," for without this unsubstantial substance the human brain must utterly fail to construct matter which is matter—or in other words, a substantial universe. For the mind of man, as Kant has taught us already (*v.* p. 224, vol. I), legislates for Nature.

25. HISTORY OF THE COLOUR THEORY, part IV, section "*Renatus Cartesius*."

26. *Vide* Schlichting, GRAVITATION, A RESULT OF ETHERIC MOTION, 1892; P. Gerber, THE VELOCITY OF PROPAGATION IN GRAVITATION, 1905, V. Wellmann in ASTRONOMISCHE NACHRICHTEN, 1899, 148, and the ASTROPHYSICAL JOURNAL, 1902, p. 282 *et seq.*, and cf. F. Ebner in the supplement to the ALLGEMEINE ZEITUNG, 1901, No. 288. Perrin (in other passages, p. 24) says of J. J. Thomson and Lorentz's most recent theories: "*On se trouve avoir expliqué l'attraction universelle comme un résidu d'actions électriques.*"

27. Ch. I, p. 49. What Hertz means to say is in complete

correspondence with the great basic Cartesian maxim: "*Tous les corps qui sont au monde s'entretoûchent*" (III, 329).

28. In order to facilitate the full comprehension of these expositions it may not be superfluous here to quote the precise words of the three so-called "Newtonian Laws" from the *PRINCIPIA MATHEMATICA PHILOSOPHÆ NATURALIS*. The first runs thus: "Every body remains at rest, or continues at the same rate of rectilinear motion, unless forced to alter its condition by forces operating outside it." The second thus: "Change of motion is proportional to the effect of the directing force, and takes place in the direction of that straight line in which that force acts." The third thus: "Reaction is always opposed and equal to action, that is to say, the reciprocal actions of two bodies are always equal and in direct mutual opposition."

29. *Vide* Clerk Maxwell, *MATTER AND MOTION*, § 58.

30. *Vide* Heinrich Hertz, *PRINCIPLES OF MECHANICS*, pp. 6-7, and cf. § 469 and § 470.

31. Cf. § 37 *et seq.* in Book II of Descartes' *PRINCIPIA*, and especially *LE MONDE*, chap. 7.

32. In discussing the law of inertia, Mach arrives at the conclusion that, in spite of its seeming simplicity, "this is very complex in its nature, because," he says, "it rests on inconclusive, and in fact, on never entirely conclusive, experience." This discovery troubles him quite considerably; for if the law of inertia once failed to adapt itself, the entire universe (or, at least, theoretical mechanics and the professors destined to expound them) would explode, and so he asks us "to practise a continual control of experience of this law." (*MECHANICS*, 3rd ed., pp. 231-232). One example will suffice to show where these anti-metaphysicians are likely to lead us; for, logically, Professor Mach would have to demand the institution of a permanent State Commission (whose language would of course be Chinese, which would have "continuously to control" or check the statements that two and two make four. The law of inertia does not, however, in reality depend upon experience at all; it, on the contrary, first creates experience (*vide* p. 228, vol. I). As Poincaré (chap. I, p. 119) says: "*L'expérience ne peut ni confirmer cette loi, ni la contredire.*" It is historically the spontaneous discovery of a genius in the art of perception; it can never be demonstrated from the physical standpoint, but—as Clerk

Maxwell, one of the greatest men of genius in physics of our century, has said—we must regard it as “the only possible scheme of a consistently—logical doctrine, establishing a relation between space and time, which the human mind has so far been able to conceive” (MATTER AND MOTION, § XLI). All three of these basic ideas—matter, space, time—can only be arrived at on the metaphysical road.

33. Helmholtz: Preface to Hertz's PRINCIPLES OF MECHANICS, p. xxi.

34. “*Tempus, spatium, locum et motum, ut omnibus notissima, non definitio*” (quoted in German *pace Wolff*).

35. The following note is not directly connected with the above, and is not intended either to enlighten or confirm; but I imagine that even at this early stage some reader will begin to get an inkling of Kant's metaphysical intuitive perception, which runs: “If space be regarded as a quality pertinent to things in themselves, then space and everything thereby conditioned, is a ‘no-thing’” (PURE REASON, 274). Additional light on the confusion of ideas underlying the assumption of “absolute space” and “relative spaces” capable of motion within the former, is given in METAPHYS. PRIN. NAT. SCI., I, 1, 2.

36. A pure “science of numbers”—be it said—can only be based on number in the abstract, i.e. algebra or reckoning by means of an alphabet; for a number is in reality the birth of a perception, whereas really pure mathematics have for their object relative magnitudes which only exist in thought, not only without form, but also without number. I ought, indeed, here to say “universal algebra”; but I would rather be found guilty of some slight inconsistency of expression than scare the reader by the use of phraseology unfamiliar to all but experts.

37. This was not the place to enter into a war of words, and it is, moreover, always a pity to waste any time in fighting “clotted stupidity.” No thoughtful mathematician ever doubted the “*apriority*” of the geometrical view, and Descartes, who had not arrived at the philosophic conception of the essential nature of mathematics as the function of limitation (that is, limitation inwards, but not outwards!) and being possessed of a brilliantly mathematical brain, nevertheless makes merry over the folly of those who maintain that geometrical evidence is a proof of experimental experience. “*Lorsque nous avons la première fois aperçu en*

notre enfance une figure triangulaire tracée sur le papier, cette figure n'a pu nous apprendre comme il fallait concevoir le triangle géométrique, parcequ'elle ne le représentait pas mieux qu'un mauvais crayon une image parfaite. Mais d'autant que l'idée véritable du triangle était déjà en nous, et que notre esprit la pouvait plus aisément concevoir que la figure moins simple ou plus composée d'un triangle peint, de là vient qu'ayant vu cette figure composée nous ne l'avons pas conçue elle-même, mais plutôt le véritable triangle" (II, 290). Cf. especially the beginning of the fifth MEDITATION, and Gassendi's refutation of the objections thereto. A letter to Mersenne of 1st July, 1641, goes somewhat more deeply, and there Descartes explains that mathematics are in no way "built up on the phantoms of sense perceptions," but solely "*sur les notions claires et distinctes de notre esprit; ce que savent assez ceux qui ont tant soit peu approfondi cette science*" (VIII, 529). H. Poincaré, the keenest-brained mathematical analyst of our own day, says: "*On voit que l'expérience joue un rôle indispensable dans la genèse de la géométrie; mais ce serait une erreur d'en conclure que la géométrie est une science expérimentale, même en partie. Si elle était expérimentale, elle ne serait qu'approximative et provisoire. Et quelle approximation grossière! . . . La notion de ces corps idéaux est tirée de toutes pièces de notre esprit, et l'expérience n'est qu'une occasion qui nous engage à l'en faire sortir*" (LA SCIENCE ET L'HYPOTHÈSE, p. 90).

38. A small note, lest possible verbal obscurity endanger full comprehension. It is customary to call algebraic letters "symbols," but one is much inclined to give the name of "schemes" to strictly geometrical figures—I did so myself above when speaking of painters. But from all that has been said, I hope that the reason why it is so particularly difficult to supply a pure nomenclature in matters mathematical will be readily grasped. Because a letter is a sign for a thought which can only become a "thing" when aided by a perception, and the geometrical figure is a perception which, as Kant so strikingly observes, remains "blind" until dominated and controlled by ideas. What value would there be, for example, in the evidence of these visible relations here given in the square of $a+b$, unless I schematised them in my thought? Here, in mathematics, the relations are so entirely unalloyed and spiritual, that, unless I symbolise my thoughts and schematise my perceptions, I can arrive at no

intuition. The use of the words "scheme" and "symbol" as used in mathematics can to this extent be justified; but they must only be so used with a critical consciousness of this relative connection.

39. Herrmann Grassmann's *THEORY OF EXTENSION*, in two revised editions, one of which appeared in 1844 (republished in 1894) and the other in 1862 (republished in 1895), is in all respects the most weighty work of recent date which treats of the truth so clearly apprehended by Descartes.

40. Cf. XI, 278, as to the reciprocal relation between "*intuition évidente*" and "*déduction nécessaire*" and its explanation.

41. *Vide* *MEDITATION*, V, and *RÉPONSE A GASSENDI* (I, 310 and II, 289).

42. There is not the least possible doubt as to the absolute correctness of the above interpretation, for elsewhere (XI, 298) Descartes says: "*L'utilité des mathématiques est si grande, pour acquérir une science plus haute, que je ne crains pas de dire que cette partie de notre méthode n'a pas été inventée pour résoudre des problèmes mathématiques, mais plutôt que les mathématiques ne doivent être apprises que pour s'exercer à la pratique de cette méthode.*" Thus mathematics are not the method, but the method's "handmaiden." Even Goethe also recommends the mathematical method for general imitation in his essay *EXPERIMENT AS THE MEDIUM BETWEEN OBJECT AND SUBJECT* (Weimar edition, II, 11, 33 *et seq.*). Note also that Descartes revised the French translation of the above-mentioned work personally.

43. Letter to the Duchess Palatine of 18th July, 1643, IX, 131.

44. Respecting this, the right word has been said by Gibbon: "Syllogism is more effectual for the detection of error than for the investigation of truth" (*ROMAN EMPIRE*, chap. 52).

45. *THE REPUBLIC*, Book VII, 525-527.

46. The subsequent digression into mathematics constituted an indispensable basis for the entire exposition, and preceded the original lecture itself. Now, in working it out, I tried my utmost to dispense with it. Those who feel an unconquerable aversion to the "boundary," and yet cannot trust the "railed ladder," although it is so constructed that every one can ascend it free from vertigo, may certainly skip what follows and make a connection again at p. 272.

The consequence, however, would be a sensible diminution in comprehension, although not a break in the sequence of thought.

47. DISCOURS DE LA MÉTHODE, part 2.

48. RÈGLE 18, ET SUIVANTES. The close relationship is here shown with Leonardo da Vinci, who also likes to symbolise all the operations of the science of numbers and prefers dealing with forms in place of figures. Leonardo's method of extracting the square root is pretty: "Divide a line of any length into as many parts as the number contains units; to these add a unit. Describe a circle of which this (lengthened) line is the diameter; erect a line, which shall intersect the circumference of the circle, at right angles to the diameter at one end; the length of this line is the required square root." *Vide* Ravaisson-Mollien, LES MANUSCRITS DE LEONARDO DA VINCI DE LA BIBLIOTHÈQUE DE L'INSTITUT, MS., A fol., 5 recto; and cf. MS. K fol., 75 *et seq.*

49. MAXIMS AND REFLECTIONS ON ART.

50. Cf. Descartes, GÉOMÉTRIE, LIVRE PREMIÈRE, V, 315.

51. Cf. the detailed explanation in Rule XIV of RÈGLES POUR LA DIRECTION DE L'ESPRIT, XI, 304.

• 52. LETTER OF 20TH FEBRUARY, 1639, VIII, 103.

53. Much interesting matter regarding Descartes is to be found in Cantor's LECTURES ON THE HISTORY OF MATHEMATICS, second ed., particularly in II, 749 *et seq.*, 796 *et seq.*, 856 *et seq.* Genuine appreciation of Descartes is neither to be expected nor found here; within each department the specialist speaks with a certain spitefulness of the services rendered by his "wonderful visitor."

54. Naturally meaning all which do not assume more than three dimensions in space.

55. RÉFLEXIONS SUR LA MÉTAPHYSIQUE DU CALCUL INFINITÉSIMAL, 4th ed., 1860, p. 7.

56. The reader is referred to my FOUNDATIONS OF THE NINETEENTH CENTURY, p. 908 *et seq.*

57. "*L'entendement pur*" often occurs in the letters as, e.g. V, IX, 130, where he even anticipates the Kantian application of the imaginative faculty; the expression "*raison toute pure*" occurs in the first section of part III, 180, of the PRINCIPES; it is true that this work first appeared in Latin, and the Latin text only has the word "ratio," yet the French translation appeared several years before the death of Descartes, who revised it carefully, and which is

therefore authentic. (Cf. e.g. letter to the translator, Abbé Picot, of 17th February, 1654, which is misprinted in Cousin as 1643).

58. Cf. PURE REASON, V, I, 393: "This gap in our knowledge (namely, the celebrated problem of the communion which exists between that which thinks and its extension in thought) can never be filled."

59. This is analysed with particular clearness and simplicity by Kant in his ANTHROPOLOGY, § 7: "With regard to the condition of ideas, my mind is either active and exercises power, or it is passive and exists in a state of receptivity. An intuition contains both these states of mind in combination. . . . Ideas, with respect to which the mind maintains an attitude of passivity, and by which, therefore, the subject is affected . . . belong to the sensual, but those which contain mere action (thought), to the intellectual faculty of intuition."

60. "*Bathos*," the Inane, not "*Pathos*" or passion.

61. For simplicity's sake, I here said, "the higher mathematics," because the example I adduced is actually and historically connected with the inauguration of the higher mathematics; yet directly the matter is submitted to the test of metaphysics, it becomes obvious that there can be no mathematics independent of transcendental relativity: we should not know that two and two is four without perception, and neither can we know it through perception alone.

62. The Greek word "categoric" in no way denotes the relation which it is intended to cover. But in Kant's manuscript preparations for the CRITIQUE OF PURE REASON, we find the excellent expression, "Titel des Verstandes," or "title granted by Reason." His own note to this is: "Every perception must be subjected to a 'title granted by Reason,' because otherwise it would not be an idea at all, and no thought would be thereby conveyed. By means of such ideas we make use of phenomena, or, rather, ideas indicate the method by which we enlist phenomena into our service as the materials for our thought" (POSTHUMOUS WORKS, I, 39 *et seq.*). I particularly recommend this name and its explanation to the general reader.

63. Compiled (with some omissions) from PURE REASON, pp. 305-306 and 161. There is an important leading passage on Kant's interpretation of the categories in the lengthy

note to the preface of the *METAPHYS. PRIMER OF NAT. SCI.* ; this passage should not escape the notice of any one desirous of knowing the true inwardness of the Kantian doctrine. I considered the enumeration of the categories unnecessary and even disturbing in the lecture ; for I should have been led into a purely metaphysical region, whereas my object was to dwell upon the perceptive side of Kant's method of thought. Least of all concerned was I with the squabble about the number of pure abstract ideas. It is of no great consequence whether Goethe, at one time, distinguishes a single colour, and, at another, three or four primary colours ; the formative principle itself is the decisive factor ; the apparent contradictions in the evidence help the comprehension of a thought which evades logical analysis—i.e. of an idea (cf. p. 156). The fact that Kant adhered to twelve as being the number of possible root-ideas may perhaps have been an integral part of his character, deserving no more attention than Goethe's varying statements ; but it might with greater probability be due to the accuracy and convenience of his method. The following statement may be quite sufficient for the layman. The logical judgments—on which every one of our ideas is based—can be gathered in groups of three each, with regard to "magnitude," "degree," "relativity," and "value." Kant's idea was simply this, viz. that each one of these twelve species of judgment, "inasmuch as applied to perceptions" (!), must necessarily correspond with a special form of an ideal objective cognition, which form might be called a root-concept, born of the "pan-idealising" reasoning faculty, and incapable of further analysis: the ideas of unity, multitude, universality, underlie the idea of "magnitude" ; those of reality, absence, limitation, underlie "degree" ; those of persistence, causality, reciprocity that of "relativity" ; those of potentiality (and impotentiality), existence (and non-existence), necessity (and accidentality), that of "value." The first six of these twelve categories refer to objects, the other six to relations ; the first three refer to objects in perception (extensive), the second three refer to objects in conception (intensive) ; the third refer to mutual relativity of objects (physical) ; the fourth to their relation to ourselves (psychical) ; consequently the first group stands for three "pure," the second, for three "empiric," the third, for three "objective," and the fourth for three "subjective," abstract or root-ideas. The table

below may possibly be of service in making the broad lines of the scheme perceptible.

"pure" and "objective"			
Objects in perception (extensive, or mathematical)	unity	persistence	} mutual relativity
	multiplicity	causality	
	universality	reciprocity	
"empiric" and "subjective"			
Objects in conception (intensive, or dynamic)	reality	potentiality	} relativity to the Ego
	absence	existence	
	limitation	necessity	

64. PURE REASON, § 16, p. 134 *et seq.* (with omission of two technical expressions which would only confuse the untrained reader).

65. As Schiller says: "Nature is an idea in the mind itself, of which mind can form no idea" (ON THE USE OF THE CHORUS IN TRAGEDY).

66. This also corresponds with history; for the thought: "the world is my own phenomenon" (born of a fatal misconception of Kantian philosophy), is many years older than the introduction of the Will as a basic metaphysical dogma. In sketches dating from an earlier period, the former theory may be found completely developed; yet at the side of the phenomenon stands, not the Will, but Consciousness. Then from this "consciousness" grows the idea of an ordinary and a "better consciousness," which at first greatly resembles Goethe's terminological "higher consciousness"; now, this double consciousness leads to a "duplicity of the Will," to an affirmation and a negation, and the ideal assumption of the Will as the primary thing originates in these. Taken in connection with the explanations in the text, the following confession is especially valuable. On p. 724 of the MEMORABILIA, Schopenhauer says: "Thou shalt interpret Nature through thyself, not thyself through Nature. That is my revolutionary principle." This principle is word for word the repetition of Fichte's audacity. Now, as we have seen, according to Kant, the one is just as false as the other, just as meaningless and unreasoning and uncritical; Nature and

the Ego are not to be interpreted the one through the other, but by both taken in conjunction. At all events, this one short sentence proves that Schopenhauer is not among the true disciples of Kant.

67. PURE REASON, 48, 54, etc. The "inner sense" as Kant uses the words (*v. Antimony II*) is a special name for the Ego considered from the standpoint of perception, and therefore points, not to the sensual, but intellectual, side of the understanding.

68. PURE REASON, p. 48 (fragmentarily).

69. PURE REASON, pp. 49-50.

70. Very long ago, William Rowan Hamilton called algebra "the science of pure time."

71. The following etymological fact is not without interest. The genuine German word for "straight line" is "*Zeile*" (Middle High German, *Zil*), and "*Zeile*" has the same Germanic root as "*Zeit*." The Indo-Germanic root is "*di*," and it is, an important point that the name of the Indian Goddess of limitless space was *A-diti*, or the "Time-less one"; space cannot be measured without Time; the Immeasurable, in the view of a metaphysically disposed people, is not immensity, but that which is beyond all possibility of measurement—that which lies outside both "*Zeile*" and "*Zeit*." (According to Kluge, ETYMOLOGICAL DICTIONARY, and Wilke, GERMAN ETYMOLOGY.)

72. CONFESSIONS, XI, 25.

73. PRINCIPES, part I, § 57, p. 99. *Tempus est nihil præter modum cogitandi.*

74. *Vide* vol. I, p. 242. Even a mind like Schopenhauer's forms a similar judgment: "No human being has ever succeeded in getting a clear notion of this marvellous masterpiece of the schematisation of pure abstract thought"; he then helps us to get over the difficulty by assuring us that "the matter borders on the ridiculous," and that Kant's schematic doctrine is "altogether undemonstrable, and merely an arbitrary hypothesis" (CRITICISM OF THE KANTIAN PHILOSOPHY, Works, II, 532 *et seq.*, of the Brockhaus—and I, 573 *et seq.* of the Edition de luxe).

75. *Vide* vol. I, pp. 87, 148, 243.

76. Kant himself uses the word "symbol" more or less in the same meaning as allegory, which was formerly not unusual (*v. CRITIQUE OF POWER OF JUDGMENT*, § 59; other

passages, CRITIQUE OF PRACTICAL REASON, end of 2nd chief part *et seq.* ; Hartenstein ed., 1868, VIII, 541).

77. Cf. the schematic diagram, p. 261 (*vide* Lord Redesdale's version).

78. The chapter in THE CRITIQUE OF PURE REASON frequently referred to and entitled "*Concerning Schematism.*"

NOTES TO BRUNO

1. Thus, e.g. Francis Bacon of Verulam, who, in chap. I, Book IV, of *DE AUGMENTIS SCIENTIARUM*, rejects the Copernican hypotheses as inconsistent with the "*principiis naturalis philosophiæ recte positis*." More fully detailed in *DESCRIPTIO GLOBI INTELLECTUALIS*, chap. 6.

2. *Vide* *DE L'INFINITO*, introduction, and first dialogue, where it is said that only the least part, "*picciola parte*," of truth can be derived through sensual perception, whereas its actual life was in the mind ("*nel mente in propria et viva forma*"), is manifested in the syllogisms of the reason ("*nell' intelletto per modo di principio o di conclusione*"), and takes an active part in the conflict of thought ("*nella ragione per modo di argumentatione e discorso*"). Where not otherwise stated, all the quotations from Bruno's works in Italian are from the only authentic edition by Paul de Lagarde (Göttingen, 1888).^{*}

3. *Vide* chap. 2, Book I, of *METAPHYSICS*.

4. Cf. *RIGVEDA*, 10, 39, 2nd strophe, *pace* Geldner and Kaegi.

5. *RIGVEDA*, 3, 62, 10. The noun-substantive "*dhi*," which is used in the two passages quoted certainly does not mean simple intuitive conception or thought, but a reverential conception, a devotional thought, also contemplation, absorption in sacred things, "Intuitive perception, wisdom, and piety conceived as a Unity." It is not, however, open to doubt that this dependent connection as above explained is legitimate; Agni, the real God of Light (the fire on the earth, the lightning in the clouds, the sun in the heavens), is simply called "*medhâkâra*," i.e. "The One Who causes Wisdom" (*RIGVEDA*, 10, 91, 8). Thus everywhere we find the synonymy of Light and Knowledge. (According to oral and written statements by Professor Leopold von Schroeder. For proof of the undoubted genetic identity of the Hindu Agni and the Hellenic Apollo, the reader is referred to the same learned authority's study, too little noticed hitherto,

"Apollo-Agni," in the Journal of Comparative Etymology, N.F. IX, 3 and 4).

6. DE GL' HEROICI FURORI, towards the end of 4th dialogue of the first edn., Lagarde, p. 664.

7. Cf. Deussen, THE VEDANTIC SYSTEM, p. 128, and Çankara, THE SÛTRAS OF THE VEDÂNTA (in Deussen's edition), p. 40.

8. According to Zeller, PHILOSOPHY OF THE GREEKS, 5 A., I, 1, 191, the saying attributed to Aristotle: "θαλῆς ὡδήγη πάντα πλήρη θεῶν εἶναι," is undoubtedly genuine.

9. The quotations from Bruno's works in Latin are always taken from the editions by Fiorentino and Tocco.

10. Vide THE DAY-VIEW AS OPPOSED TO THE NIGHT-VIEW, 1879, pp. 16 *et seq.*, 64 *et seq.*, etc., and cf. the excellent account of Fechner's life and doctrines given by Kurd Lasswitz, 1896, pp. 104, 132 *et seq.*, 144 *et seq.*, etc. The expression "day-view" is meant to convey that all things are alive and "divinely inspired" (or possessed of a soul), (p. 16), whereas the "night-view" is the purely mechanical one which is mainly professed by natural scientists; a differentiation which reminds one of St. Augustin's "*cognitio matutina*" and "*cognitio vespertina*."

11. For instance, in the CORRESPONDENCE, VIII, 299, 581 *et seq.*, 575, etc., there are particularly clear and dogmatically precise passages (besides the familiar ones in PASSIONS, the PRINCIPIA, and the MÉDITATIONS and RÉPONSES).

12. Cf. Vâcaspatimiçra's MOONLIGHT OF THE SÂMKHYA-TRUTH in a German Translation by Richard Garbe, 1891, p. 104 *et seq.*

13. *Inter alia*, p. 30.

14. *Inter alia*, principally p. 106 *et seq.*

15. DISCOURS DE LA MÉTHODE, part IV, I, 158.

16. Concerning the methodical importance of consistently differentiating between "the things of the mind" and "natural things," cf. PURE REASON, 708 *et seq.*

17. CATAPATHA-BRÂHMANA, 10, 3, 3, 6.

18. Many years ago, J. J. Weber proved that this idea of the "Logos," so directly apparent in Heraclitus, playing such a great part later in Neo-Platonism and Gnosticism, and taken up by Christianity, in which its presence everywhere makes the impression of something exotic and unintellectualised, of something "not led up to"—incontestably reached us by way of India; because this thought of "*Vâc*," as the

principle of creation which "was before God" and "was with God" and "by which all things were made" (Gospel according to St. John, I, 1 *et seq.*), is so characteristic of the Hindu mind as always to have had its place there from the Rigveda downwards until the present time, and persisted there, in spite of all the changes in philosophical concepts which have taken place. What this Logos—God's associate and, at the same time, God Himself, the Holy Ghost "who penetrates Heaven and Earth," and "bloweth as the wind, whither it listeth," "and no man knoweth whence it cometh or whither it goeth" (RIGVEDA, 10, 125)—what this Logos may possibly mean, no human being will ever learn from the history of Christian dogma; to know this presupposes the most intimate acquaintance with the Hindu mind. History would be greatly simplified by this statement, which would be none the less entirely and literally true, viz. that the grand, but fatally one-sided, tendency of the Indo-Aryan mind finds its exact expression in the "*Vâc-Logos*" idea; the tendency to give thought pride of place to perception; to prefer the "word" above the "thing"; to "subject" the subject to the object; and, translating this into terms of practical life, to put "speech" above "action." The sublime conception of the breath of life as the creative agent of the universe gradually dissolved even the world by interpreting the naïve mythological equation of "Thought" with "Being," which exists exclusively in thought alone. Hegel made very great efforts to impose a similar system of philosophy during the last century. Cf. Weber's essay, INDIAN STUDIES, IX, 473 *et seq.*, with regard to "*Vâc*"; also Deussen, GENERAL HISTORY OF PHILOSOPHY, I¹, 146 *et seq.* Cf. also Max Müller's opinion that originally Brahma was also called "the Word": THREE LECTURES ON THE VEDÂNTA PHILOSOPHY, 1894, p. 147 *et seq.* The first chapter of Genesis in "God said: Let there be," etc., preserves a faint echo from the remotest past of the "*Vâc-Logos*" myth, and Genesis was only composed at a very late, namely, in the post-exilic, period).

19. Cf. Zeller, PHILOSOPHY OF THE GREEKS, I, 665 *et seq.*, yet without laying the responsibility for my interpretation on this esteemed *savant*. The last passage: "*ἐν τῷ σοφῶν μούτῳ λέγεσθαι οὐκ ἐθέλει καὶ ἐθέλει Ζηνὸς ὄνομα*," is differently punctuated and interpreted by the various learned commentators on Heraclitus, yet Pfeleiderer, Bernays, Schuster, Lassalle, Schleiermacher, and recently also Patrick

(THE FRAGMENTS OF THE WORK OF HERACLITUS OF EPHESUS, Baltimore, 1889, pp. 100 and 120) and Diels (THE FRAGMENTS OF THE PRE-SOCRATESIANS, 1903, p. 72) are in accord with the one thing I wished to accentuate in my lecture, and only Teichmüller (NEW STUDIES FOR THE HISTORY OF IDEAS, 1876, I, 127) dissents by translating: "The wisdom called Zeus would and would not only mean unity"—not a very intelligent rendering, whereas the other one fits the Ephesian philosopher's system spontaneously. And also because it is of interest with regard to modern ideas, I will remark that another main scientific theory of Heraclitus, viz. that universal struggle is the ruling and formative principle (*πάλεμος πάντων*) is undoubtedly borrowed directly from Iranian mythology. Soon afterwards Empedocles, with unusual strength of perception, changes this theory to one in which love and hate are the two leading principles of all motion. We clothe precisely the same myths, only applying them to richer material, to-day in the words "struggle for existence" and "attraction and repulsion."

20. Cf. RIGVEDA, X, 129.

21. Xenophon also somewhere says that Socrates "avoided going for walks, because nothing is to be learnt from trees and landscapes."

22. Cf. Schiaparelli, THE FORERUNNERS OF COPERNICUS IN ANTIQUITY, in the German translation appearing in the ALTPREUSSISCHE MONATSSCHRIFT, yearly vol. 1876.

23. ACADEMICA, II, Book I, § 8.

24. Vide chiefly METAPHYSICS, XII, 8. Thomas of Aquinas gives his adhesion to every word of this sequence of thought. He also thinks God is first and foremost the Prime Mover: "*Oportet primum movens esse et hoc dicimus Deum*"; this is the "*Nous*" of Anaxagoras and nothing more. But besides this he comes to the same conclusion as Aristotle, namely, that every celestial body endowed with its proper motion is moved with a special "spirit" (here called "*angelus*"), and that as many motions as there are in Heaven, so many motions—caused by the former—there must be on earth: "*omnis motus inferiorum a motibus corporum caelestium causatur et ex virtute caelestium corporum hæc inferiora formas et species consequuntur*" (cf. COMPENDIUM, chap. 3 et seq., 126 et seq., etc.).

25. "The circle is the original line, because (!) it is the simplest and most perfect" (Aristotle, PHYSICS, VIII, 9).

26. Strictly speaking, the auxiliary spheres, or so-called epicycles, are to be imagined as follows: A planet describes a smaller orbit; the (ideal) centre of this smaller circle meanwhile moves along the circumference of a larger (ideal) circle; the centre of this larger circle again moves along a still larger circumference, and so on.

27. For "*Varuna*," cf. Leopold von Schroeder, *INDIA'S LITERATURE AND CULTURE*, p. 49 *et seq.*, and the same learned man's so far unpublished work on *ARYAN RELIGION* "*Varuna*" is a primitive Aryan idea very nearly evanescent in *RIGVEDA* to make room for more concrete images of God. For "*asad*," cf. Deussen's *GENERAL HISTORY OF PHILOSOPHY*, I, 198, 202.

28. It will be observed that I introduce the word "organicism" to denote a philosophic conception of the world, because I felt compelled to oppose a single word of similar formation to "atomism" in order to express a theory which was just as opposed to atomism as the idea of an organism is to that of an atom.

29. The method of discrimination between "mechanical" and "dynamical," described in Kant's *LETTERS*, III, 33, is of great value.

30. The Darwinians have to-day still further reduced their claims to logic. August Weismann, in his *LECTURES ON THE THEORY OF DESCENT*, vol. I, p. 213, states that flowers with funnel-shaped petals have bred bees with elongated probosces, and, on p. 217 of the same volume, he states that the said flowers "are produced by such insects"; and on p. 221 makes both these statements at once: "One may then, perhaps, say the flowers, in changing to this or that direction, produced certain kinds of visitors, but also conversely, that certain kinds of insects produced certain flowers." Of course one *may* "say" what one pleases; it is a case of "bonnet blanc, blanc bonnet," or, as the English irreverently express it, "you pays your money and you takes your choice."

31. For example, *ORIGIN OF SPECIES*, chapter 2, last § before the Summary: "a number of species are now manufacturing . . . many of the species already manufactured."

32. *Inter alia*, first §.

33. This natural law of all living things, foreshadowed by Goethe, and called "*the key of all formation*" in his poem "*Athroismos*," was first formulated explicitly by Cuvier in

his DISCOURS SUR LES RÉVOLUTIONS DE LA SURFACE GLOBE (p. 25 of the 1825 edition): " *Tout être organisé formé un ensemble, un système unique et clos, dont les parties se correspondent mutuellement, et concourent à la même action définitive par une réaction réciproque. Aucune de ses parties ne peut changer sans que les autres changent aussi; et par conséquent chacune d'elles, prise séparément, indique et donne toutes les autres.*"

34. These are those whom Goethe calls " *die Umfassenden* " or " *the comprisers* " (Weimar edition, 6, 302).

35. CONFESSIONS OF A SENSITIVE SOUL.

36. ON MORPHOLOGY. Sequel, Section " *Aphoristics.*"

37. HISTORY OF RECENT PHILOSOPHY, 2nd ed., I, 77. In the *HEROICI FURORI* (introduction), Bruno warns us against a too intensive absorption in the idea of unity at the expense of multiplicity; one would grow blind, says he, "*da troppo alta contemplazione de l'unità, che ne fura alla moltitudine*" (p. 617).

38. On p. 163 of *LA CENA DELLE CENERI*, Bruno explains that stars are moved by an " *indwelling principle which is the soul itself,*" and this soul is not only a " *sensible* " but an " *intellectual* " one, more so even than the human soul, "*Muoveresi dunque la terra et gli altri astri secondo le proprie differenze locali dal principio intrinseco che è l'anima propria. Credete (disse Nundinio) che sii sensitiva questa anima? Non solo sensitiva, rispose il Nolano, ma anchè intellettiva; non solo intellettiva come la nostra, ma forse anchè più.*"

39. ARTICULI ADVERSOS MATHEMATICOS, membrum 3, § 36 (1^a, p. 26). It is very remarkable how he makes use of the one Universal Being as a foundation of innumerable unities. "*Non igitur falsa, sed altior quam a triviali Peripateticorum sensu perceptibilis, fuit illa Xenophanis et Parmenidis sententia; 'Ens' unum, immobile, quod in rei veritate idem et principium et principiatum; sicut substantialiter praeter unitatem nihil est numerus; quod non est unum, nihil est; ergo unum est ens, unum et verum, multitudo vero relinquitur ut accidens, ut vanitas, ut non ens: ita intelliges ubi monadis vocem audies: 'sum quod es.' Ut ergo praeter monadem nihil est, praeter atomos et puncta nullum est quantum, ita et praeter minimi proportionem et definitionem nulla est mensura, nullus est geometra et nulla consequenter philosophia.*" Truly, an enviable dialectical genius! He assumes firstly that only absolute unity is Being, that multiplicity is a vain imagination,

is Non-existence and thence (*ergo*) deduces that "*praeter atomos*" (atoms, plural) there can be nothing. It is easy to talk of contradiction here, but it is more interesting to note that such a sequence of thought discloses with mathematical certainty the exact point where the diagonal of his inwardly directed thought intersects his, so to say, no less inwardly directed, unsymmetrical vision, and, in opposition consequently to his thought, crosses the mind of Bruno.

40. "*Si ergo contemplatio naturæ vestigia persequitur, et in minimo speculando consistat, et in minimum contemplando desinat oportet*" (DE TRIPLICE MINIMO, I, 4, note; Tocco ed., I³, p. 149). Bruno uses all kinds of terms for the atom which vary with his varying views of it: he names it "*monas*" (monad, i.e. unity) when he considers it as something spiritual; "*minimum*" when he wishes to say the least physical quantity; "*punctum*" (a point) when discussing a geometrical system; "*Unum*" (One) when treating of arithmetical computation. . . . Yet the differentiation is not very keenly maintained, and the idea of "*atomos*" (or, as Bruno writes it "*atomus*") is synonymous with the other terms as is proved by the passage in DE MINIMO, I, 2, so frequently quoted, viz. "*Minimum substantia rerum est . . . hinc monas, hinc atomus.*"

41. DE ANIMA, Book I, chap 2, towards the end.

42. . . . "*censet imagines divinitate præditas inesse universitati rerum*" . . . (Cicero, DE NATURA DEORUM, I, 43).

43. Cf. his ATOMIC THEORY.

44. Vide the whole work DE L'INFINITO; e.g. p. 389: "*Cotal spacio lo diciamo infinito, perche non è raggiante, convenienza, possibilità, senso è natura che debba finirlo; in esso sono infiniti mondi,*" etc.

45. The passage in METAPHYSICS, V, 17, where Aristotle makes limitation and form synonymous is interesting: "Limit is the form of that which has magnitude" (as translated by Bonitz, p. 108).

46. Vide in particular PHYSICS, III, 7. Bruno's contrary view is pithily expressed as follows: "*principium et fundamentum errorum omnium, tum in physica tum in mathesi, est resolutio continui in infinitum*" (DE TRIPLICE MINIMO ET MENSURA, I, 6, Tocco ed., I³, 153).

47. One passage only, instead of several, on atoms and empty space: "*ma philosophie ne réfute rien autre chose que cette philosophie creuse et subtile composée de vide et d'atomes,*

qu'on a coutume d'attribuer à Démocrite et à Epicure, ou quelques autres qui lui ressemblent, et qui ne me regardent point du tout" (letter of 27.xi.1637, VI, 338). In connection with this, cf. also especially § 202 of part 4 of the *PRINCIPIA*. Regarding the "forces," Descartes never tires of ridiculing those "who in this way ascribe little souls to substances" and, for example, "attribute gravity to things in much the same way as thought is an attribute of the human being" (cf. e.g. Book IX, pp. 104, 133).

48. Cf. the fourth *MEDITATION* (ed. Cousin, I, 303), where on this point he says: "*Je suis entièrement indifférent à le nier ou à l'assurer, ou bien même à m'abstenir d'en donner aucun jugement.*" And should it be objected that this is only a preliminary admission, which is entirely withdrawn in the sixth *MEDITATION* in favour of absolute dualism, I would refer the objector to the beautiful letter in vol. VIII, p. 586 *et seq.*, where the same idea is developed many years afterwards.

49. Haeckel's idea of the Universe signifies a relapse of the clumsiest kind into unadulterated mythology, clumsy, namely, because it goes to work not intuitively from force of imagination, but from ratiocination, and because—unlike the mythologies of simple-minded natural races—the hair-raising audacity of his similes, which harmonise no more with perception than they do with logic. This is neither poetry nor science nor philosophy, but a stillborn bastard of this trinity.

50. As against the assertion that Descartes' thought was solely directed outwardly, a hypercritical "literalist" might object that he often spoke of Infinity in a manner more reminiscent of Bruno than of Aristotle. But real knowledge of Descartes shows that he champions Infinity only as being a necessary attribute of God—therefore from a purely theological point of view—but on the other hand, he sets up exactly the same distinction in science, which was afterwards developed by Kant in such a masterly fashion and by him critically applied, to distinguish the idea of an "*Infinium*" (Illimitable), and of an "*Indefinitum*" (Unlimited). Bruno is indebted to Cardinal Cusa for the doctrine of Infinity, which he expounded with so much enthusiastic zeal, and it is precisely in opposition to Cusa that Descartes propounds his own contrary opinion: "*Je ne dis pas que le monde soit infini, mais indéfini seulement; en quoi il y a une différence assez remarquable; car pour dire qu'une chose est infinie ou*

dit avoir quelque raison qui la fasse connaitre telle, ce qu'on ne peut avoir que de Dieu seul ; mais pour dire qu'elle est indéfinie, il suffit de n'avoir point de raison par laquelle on puisse prouver qu'elle ait des bornes" (letter of 6.vi.1647, X, 46. Cf. also *ŒUVRES INÉDITES*, I, 67).

51. HISTORY OF THE COLOUR-THEORY, part I, sec. 2, and part II, sec. 2.

52. HISTORY OF THE COLOUR-THEORY, section "*Renatus Cartesius*."

53. Vol. I, number 1, of the said periodical, p. 52.

54. Cf. LO SPACCIO, p. 407, and in many other places.

55. Several narrow-minded specialists thought it right to reproach me severely on account of this and some other similar passages, although the connection and the entire book quite plainly show that expressions such as "our mind is organised" are only to be taken allegorically (1908).

56. HISTORY OF MATERIALISM, Book II, sec. I, p. 376 of the 1881 edition.

57. Conclusion of preface to PROLEGOMENA. The whole paragraph about the "indolence or stupidity" of those who have the assurance to decide "metaphysical questions" without even understanding the "true principles of criticism" should be read.

58. HISTOIRE DU PEUPLE D'ISRAËL, 13th ed., I, 49.

59. Cf. LETTER TO LOUIS DE BALZAC of March, 1631, VI, 199.

60. This connection was for long unsuspected, because Bruno's works could nowhere be obtained; even towards 1810 Goethe complained that they were not to be found (VIII, 189 *et seq.*); for a long while he seems only to have known that which was quoted in Bayle's DICTIONNAIRE, or six quite brief extracts in all (cf. Schöll, LETTERS AND ESSAYS BY GOETHE, p. 101). An edition compiled by Richard Wagner's uncle, Adolf Wagner, of the works in Italian only appeared in 1830; in Latin they have only been published within the last ten years.

61. THE REPUBLIC, Book 7, 525-527.

62. The fact that he treats only parts I and II of the PRINCIPIA, leaving out the entire "*monde visible*" upon which Descartes lays special stress, is extremely significant of Spinoza's intellect. Kant, who cares but little for philosophers, did once give vent in a note to his disgust for Spinoza's "arrogance, which knew no limits," and showed up the

monstrosity of his mathematical method. Spinoza's philosophy seems to Kant the pure type of a method of thought which is in every particular opposed to genuine scientific critical analysis. (Cf. WHAT IS THE MEANING OF THOUGHT-REGULATION?). Spinoza in general seems to be the only person against whom Kant, always so temperate and ready to recognise the merits of others, felt lifelong insuperable antipathy (cf. Professor Friedrich Heman's book on KANT AND SPINOZA in KANT STUDIES, vol. V, especially p. 291).

63. The English philosopher, Jowett, the famous translator of Plato, very pertinently remarks: "The philosophical tenets of Spinoza taken in their entirety, may be described as the Jewish religion translated into the regions of abstraction" (PLATO'S DIALOGUES, 3rd ed., II, 21). Spinoza's most recent biographer, J. Freudenthal, also establishes the fact that the impressions made by the specifically Jewish philosophy of religion adhered ineradicably in his mind (from an account of SPINOZA, HIS LIFE AND DOCTRINE, 1894, in the supplement of the MUNICH ALLGEMEINE ZEITUNG, 26, 7 1904).

64. Cf. the AUTOBIOGRAPHY, ed. 1873, pp. 242 and 144.

65. DE IMMENSO ET INNUMERALIBUS, lib. V, cap. 12, v. 2 (Vol. I*, p. 154).

66. 3rd ENNEAD, book 8, chap. 4.

67. WORKS, 5th ed., 1837, III, 249.

68. These excerpts from the preface to the PRINCIPIA in the original Latin text run: "*Facile enim observatu est in Magistellis ipsos per eam (meaning 'philosophia vulgaris') rectæ rationis minus reddi capaces, quam forent si eam nunquam attigissent. . . . Unde concludendum est, eos qui quamminimum didicerunt illorum omnium quæ hactenus nomine Philosophiæ insiquiri solent, ad veram percipiendam quammaxime esse idoneos . . . quo plus in ea desudarunt, tanto solere ad verum percipiendum ineptiores esse.*"

69. DE LA CAUSA, p. 277. "It is not formed nor capable of formation; it is not limited nor limitable; neither can it give form or definite shape to anything else."

70. Cf. ATTEMPT AT A GENERAL COMPARATIVE THEORY, Weimar edition, II, 7, 223, and in APHORISMS FOR MORPHOLOGY, 6, 216.

71. I quote from Max Müller's English text: "There is one eternal Thinker, thinking non-eternal thoughts" (THE UPANISHADS, II, 19). Cf. Max Müller's remarks to the

synonymous verse of the "Svetâsvatara-Upanishad" in the same vol., p. 264, note 4, as to the entirely different gloss of the Hindu commentators which Deussen also accepts in the respective place in the UPANISHADS (5, Vâlli, strophe 13) (v. VEDANTIC UPANISHADS, p. 283).

72. Analysed with special discrimination in the first edition of the CRITIQUE OF PURE REASON, first paragraph of p. 370.

73. "The false subtilities of the four syllogistic figures," § 5.

74. WHAT IS THE MEANING OF THOUGHT-REGULATION?

75. As in contrast with the expert, the layman has to allege his proof of every statement, I here produce the passage referred to: "*La verità è quella entità che non è inferiore a cosa alcuna; perche se vuoi fengere qualche cosa avanti la verità, bisogna che stimi quella essere altro che verità, et se la fingi altro che verità, necessariamente la intenderai non haver verità in se et essere senza verità, non essere vera; onde consequentemente è falsa, è cosa de niente, è nulla, è non ente. Lascio che niente può essere prima che la verità, se non è vero che quella via et sopra la verità, et cotal vero essere non può essere se non per la verità. Cossi non può essere altro insieme con la verità et essere quel medesimo senza verità; per cio che se per la verità non è vero, non è ente, è falso, è nulla. Parimente non può essere cosa appressa la veritade; perche se è dopo lei, è senza lei, se è senza lei, non è vero, perche non lià la verità in se; sarà dunque falso, sarà dunque niente. Dunque la verità è avanti tutte le cose, et con tutte le cose, è dopo tutte le cose,*" etc. These words are the words of "Sophia" or wisdom incarnate; I think this one passage will sufficiently indicate this intellect's "modernity"; one need perhaps but to place it side by side with Descartes' RÈGLES POUR LA DIRECTION to understand wherein the difference lies.

76. Vide the SUMMA TERMINORUM METAPHYSICORUM in several places.

77. Cf. ACROTISM, Art. XXI, 1^a, 117 et seq.

78. The reader is referred to the index of names in Vorländer's edition of both these works. (N.B.—A principal passage in the CRITIQUE OF PURE REASON about Hume is entered under "Skeptiker" and with the erratum, "p. 781," instead of 786.)

79. AN ATTEMPT TO INTRODUCE THE IDEA OF NEGATIVE MAGNITUDES INTO COSMOLOGY, 3rd section, § 4.

80. Domenico Berti, *VITA DI GIORDANO BRUNO DA NOLA*, 1868, p. 362 *et seq.*

81. Original edition, 1804, p. 28; Alfons Hoffmann's edition, 1902, p. 17.

82. *Vide* preface and appendix to the *PROLEGOMENA* (1783), "*What is the meaning of thought-regulation?*" (1786); "*Concerning a discovery by which all fresh analysis of the reasoning faculty may be dispensed with by the use of an older one*" (1790); "*On the recent adoption of a higher philosophical standard*" (1796); "*Explanation with regard to Fichte's teaching of science*" (1799); "*Letters*," etc.

83. THE ONLY POSSIBLE REASON, etc., part II, 5th consideration, § 2.

84. Reicke, *KANTIANA*, p. 164.

85. Also cf. the notes in the preface to these lectures, p. 5.

86. REPORT OF THE LECTURE-ARRANGEMENTS IN THE WINTER SESSION, 1765-1766.

87. INVESTIGATION OF THE SIGNIFICANCE OF THE PRINCIPLES, etc. (Introduction and Second Consideration to).

88. In VIII, 624, of Hartenstein's edition of 1868.

89. It is characteristic that Kant, on reaching Descartes, in his *BRIEF SKETCH OF A HISTORY OF PHILOSOPHY* (*Logic*, IV), makes no mention of the "*cogito, ergo sum*" and other trivialities which still "pad" our textbooks, but only lays stress upon this single thing, namely, that Descartes "contributed greatly to bring clearness into thinking by the establishment of the criterion of truth, which he considered to consist in the clarity and manifestation of intuitive knowledge."

90. Cf. e.g. *SUMMA TERMINORUM METAPHYSICORUM*, Tocco ed., 1¹, p. 113 *et seq.*

91. *Vide, inter alia, infra*, and specially, *DE IMAGINUM, SIGNORUM ET IDEARUM COMPOSITIONE, PRÆFATIO*, 11², p. 90."

92. *SUMMA TERMINORUM METAPHYSICORUM*, Tocco ed., 1⁴, 104.

93. Bruno's connection with the Neo-Platonists is so close that he sometimes follows Plotinus page for page and simile for simile in his own finest works, of which fact one may be easily convinced by help of the notes to Lasson's German edition of *DE LA CAUSA*; see also Bartholomess, *JORDANO BRUNO*, II, 320: "*Lorsqu'on compare Bruno avec les néo-platoniciens d'Alexandrie, il faut renoncer à citer, parcequ'il faudrait noter chaque page.*" But at first Bruno is connected

with the Lucretian doctrine in regard of spatial infinity and inhabited worlds without end, and with Cardinal Cusa, the chief instructor of his early years (who died 1464, nine years before Copernicus was born. Cf. hereon the Cardinal's *DE DOCTA IGNORANTIA*, Book 2, chap. 12, and the comprehensive book by J. F. Clemens, *GIORDANO BRUNO AND NICHOLAS OF CUSA* (1847, p. 142 *et seq.*). I must take this opportunity of calling attention to the fact that the books of Copernicus were not placed on the Index during Bruno's lifetime, and that Cusa's were held in the highest estimation. I therefore believe that Bruno was condemned by the Inquisition for heresy, pantheism, and defending sorcery, but not for philosophy and natural science. Two pamphlets among the lately discovered *OPERA INEDITA* by Bruno treat fully of magic and astrology; and these pamphlets are *DE MAGIS ET THESES DE MAGIA*, and *DE MAGIA MATHEMATICA*. Yet also in the works longest known, both in Italian (*vide* specially *DE LA CAUSA*, pp. 240, 237, and *LO SPACCIO*, pp. 530, 532) and in Latin (*vide* specially *SIGILLUS SIGILLORUM*, pp. 165, 197-199), there are plenty of passages in proof of Bruno's belief in magic, which is intimately connected with his entire conception of Nature. In the *DE IMAGINUM, SIGNORUM ET IDEARUM COMPOSITIONE* (Tocco ed., II^a, 90), we read: "*Ille qui in se videt omnia, quique est omnia idem. . . . Tunc ut possibile esset intelligere omnia, non esset etiam difficile omnia facere.*" In the *SIGILLUS SIGILLORUM*, he advocates the "*transfusio virtutis ab una potentia in aliam*" (II^a, 176). Here it is interesting to recall that Roger Bacon composed a work, *DE NULLITATE MAGIÆ*, three centuries earlier. None of those who know him will deny that Bruno was a "star"; but in such traits as these the difference between morning stars and stars of evening is brought to light. In this connection it is not unimportant to notice that even although Bruno was a Catholic not altogether free from ecclesiastical censure, he shows still less sympathy with the doctrines of the Reformation. In the great struggle about faith and works he stands with the Pope against Luther, and calls the latter's conception "*una vana, bovina et asina fiducia*," an idle, bovine and asinine belief! And he christens the Reformation, stock, lock and barrel, with the pet name "*macchia del mondo*," the plague and scandal of the earth, and prays God thus: "*che le dissipe, disperda et annulle et spinga con qualsivolta forza, braccis et industria sino à la memoria del nome di*

tanto pestifero germe," to disperse, destroy, expel, and annihilate the Reformers, by any and every necessary force, weapons, and stratagems until even the memory of such a pestilential brood is wiped out of existence (LO SPACCIO, 2nd dialogo, I parte, pp. 462-468). This "religion of science" evidently promised to be peculiarly tolerant.

94. "... *si Dio non é la natura istessa, certo é la natura de la natura* (works in Italian, p. 533); *Dio é vicino, con se et dentro di se, piu ch'egli medesimo esser non si possa; come quello ch'è anima de le anime, vita de le vite* (p. 700) *abbiamo dottrina di non cercar la divinità rimossa da noi, se l'abbiamo appresso di noi, anzi di dentro più che noi medesimi siamo dentro arnoi* (p. 128). ... *Tutti sono principalmente, realmente et finalmente uno ente, una cosa medesima* (p. 483)." The first and last of these quotations are from SPACCIO DE LA BESTIA TRIONFANTE (3rd Dialogue, 2nd part, and 2nd Dialogue, 2nd part); the second from DE GL' HEROICI FURORI (2nd part, 1, 4), and the third from the CENA DELLE CENERI (1st Dialogue).

95. "God is poured into the Reason by means of Nature; Reason climbs upward through Nature to God" (DE TRIPLICI MINIMO, 1³, 136). Cf. DE LA CAUSA, PRINCIPIO ET UNO, p. 283 "... *è una et medesima scala, per la quale la natura descende alla production de le cose, et l'intelletto ascende alla cognition di quelle; l'uno et l'altra da l'unità procede all'unità.* ..."

96. "*L'anima de l'huomo é medesima in essenza specifica et generica con quelle de le mosche, ostreche marine et piante*" (CABALA DEL CAVALLO PEGASEO, p. 585).

97. Vide all the beginning of 5th Dialogue of the DE LA CAUSA, where all the hundred repetitions in the Italian and Latin works are summarised and expounded with magnificent vigour.

98. "*Nomen unum omnia significans, Ratio una omnia considerans, omnia unus desiderans Appetitus*" (DE MONADE, chap. 2).

99. SUMMA TERMINORUM METAPHYSICORUM, 1⁴, 117.

100. DE GL' HEROICI FURORI (part I, 2nd Dialogue, p. 634).

101. "... *l'unità é uno infinito implicito et l'infinito é la unità explicita*" (LO SPACCIO, p. 454, and in many other places).

102. "*Nativitas est expansio centri, vita consistentia sphaeræ, mors contractio in centrum*" (DE TRIPLICI MINIMO, 1, 3, note, Tocco ed., 1³, 143).

103. NRISINHA-UTTARA-TÂPANIYA-UPANISHAD, 9. KHANDA (Deussen, SIXTY VEDANTIC UPANISHADS, 1897, p. 797).

104. BRIHADÂRANYAKA-UPANISHAD, 4, 4, 22 (*inter alia*, p. 479).

105. MEISTER ECKHART, Sermon 98 (Pfeiffer ed., p. 316).

106. "... dalla monade che é la divinitade, procede questa monade che é la natura, l'universo, il mondo, dove si contempla et specchia come il sole nella luna" (DE GL'HEROICI FURORI, 2nd part, end of 2nd Dialogue, p. 724).

107. Cf. DE IMMENSO, LIBER VIII, cap. 10 (1^a, 314); DE TRIPLICI MINIMO, part I, canto 4, vv. 18-19, and SUMMA TERMINORUM METAPHYSICORUM, 1^a, 73: "*Deus est substantia universalis. . . . Sicut enim Natura est unicuique fundamentum entitatis, ita profundis naturæ unius cujusque fundamentum est Deus.*"

108. Once we find Bruno treading the Cartesian road: "*evidens est, Deum non decipere nec decipi . . . ita . . . absque ulla hæsitazione evidens esse censendum est, quidquid ille proponit credendum esse verum,*" etc. (1^a, 100). But he deduces no conclusion which might be profitable for the intuitional theory, but only the abstract axiom that Nature, which either itself is God, or Divine power manifest in things ("*aut Deus ipse, aut divina virtus in rebus ipsis manifestata*"), will never be found out of harmony with the word of God or His will ("*non opponitur verbo Dei,*" etc.), whereby we have again got to what Kant calls "babble."

109. ARTICULI ADVERSOS MATHEMATICOS, memb. 3, art. I, § 4, § 23. Kant, on the other hand, reminds us: "The simple (i.e. then, the Indivisible) ceases to be matter"; it follows also that it cannot supply any element for the construction of the visible universe.

110. DE TRIPLICI MINIMO, notes to I, 6 (1^a, pp. 151, 154). This work in particular (and before all the first book, DE MINIMI EXISTENTIA, and the third, INVENTIO MINIMI) ought to be studied for Bruno's THEORY OF THE MINIMUM, and DE MONADE NUMERO ET FIGURA, as well as the above-mentioned ARTICULI ADVERSOS MATHEMATICOS. The reader will find the most illuminating elucidations on this problem of infinite divisibility—a problem which, of course, only admits of metaphysical solution—in Kant, METAPHYS. PRIMER OF NATURAL SCIENCE, 2nd chief sect., 4th theorem, note 2.

III. "*Omnium corporum vis est in sphæra, omnis spheræ vis est in circulo, omnis circuli vis in centro, vis omnis visibilium*

est in invisibili. Minimum quantitate est virtute maximum, sicut potentia totius ignis in virtute scintillæ ignis sita est. In minimo ergo, quod est absconditum ab oculis omnium, etiam sapientum et fortasse Deorum, vis omnis est; ideo ipsum est maximum omnium" (ARTICULI ADVERSOS MATHEMATICOS, memb. 3, § 26. Tocco ed., 1^a, 24).

112. Transition from ELEM. METAPHYS., etc., I, 125. 'Cf. Çankara's expositions in the VEDANTIC SÔTRAS, II, 1, 29.

113. PURE REASON, I, V, and II, 730. Kant himself briefly indicated the comparison of our reason with a sphere (in contrast with the one usually accepted, viz. "a wide plain of undefined extent"), *inter alia*, p. 790.

114. PURE REASON, 784. Çankara, an intellect akin to Plato's and Kant's, who lived some thousand years before, wrote this: "It is matter of common knowledge that some teach one thing and some another from their reflective intuitions, and they greatly contradict each other. For that which one thinker maintains is perfect intuition is demolished by another, and the latter's again by a third, as every one knows" (THE VEDANTIC SÔTRAS, translated by Paul Deussen, p. 277).

115. Another remarkable passage runs thus: "*Non est Deus vel intelligentia exterior circumrotans et circumducens; dignius enim illi—debet esse internum principium motus.*" (DE IMMENSO, V, 12, note, ed. Fiorentino, 1^a, 158).

116. METAPH. PRIMER OF VIRTUE DOCTRINE, III, note to theorem 2. And cf. PURE REASON, 404, 408, etc.

117. "The soul cannot be mingled with the body . . ." (DE ANIMA, 3, 4).

118. PROLEGOMENA (Appendix 15). The reader will find the elementary distinction between the thing and the phenomenon, adapted for the use of the inexperienced, in CONVERSATIONS, 3rd sect., 3 title, on turning to § 7 of the ANTHROPOLOGY. The reader whose interest has been aroused by the previous lecture is, for the purpose of comparison with Kant, also advised to read the former's 3rd MEDITATION. Descartes is fully possessed of one-half of the intuitive analytical faculty: "*Or la principale erreur et la plus ordinaire qui s'y puisse rencontrer consiste en ce que je juge que les idées qui sont en moi sont semblables ou conformes à des choses qui sont hors de moi . . .*"; but, since he lacks the complementary discrimination of the Ego as being equally "phenomenon," he once more relapses into abstractions and dogmatic assertions.

, 119. Cf. POSTHUMOUS PAPERS, I, 209; LETTERS, I, 129; PURE REASON, 533; *idem*, I, 359, etc.

120. LETTER TO TIEFTRUNK of 5th April, 1798.

121. The decisive importance of the "method" of Kant's thought and system of philosophy will only be fully discussed in the final lecture.

122. Cf. the preparation for this intuitive perception and the quotation from Schiller at the end of the previous lecture.

NOTES TO PLATO

1. *Vide* Jachmann, end of 8th letter.
2. OBSERVATIONS ON THE FEELING OF THE BEAUTIFUL AND SUBLIME, Sec. III, towards the end and quite at the opening of Sec. II. For "they" read "he" in four places in the first quotation.
3. From PHÆDRUS, 245 A.
4. "Ἔis μίαν τε ιδέαν συνορῶντα αγειν τὰ πολλαχῇ διεσπαρμένα . . ." (PHÆDRUS, 265 D).
5. "Plato is by nature a being possessed by Love above all, he is so unswervingly from the cradle to the grave; and as love is necessarily directed at first to visible things, this 'discipline in love' (his own expression is 'τὰ ἐρωτικά') led to an exquisite development of the senses" (PLATO AND PLATONISM, 1910, p. 134). *Vide* his REPUBLIC for the "τὰ τοῦ καλοῦ ἐρωτικά," 403 C.
6. In the work by Pater referred to, cf. the entire chapter, THE GENIUS OF PLATO.
7. SYMPOSIUM, 210-211, and cf. PHÆDRUS, 247 *et seq.* It is worthy of note how the presence of Love is glorified in the whole of Nature in the SYMPOSIUM, beginning with the physician, Eryximachos, his praise of the prevailing concord of lifeless elements and forces, and ending with the premonitions of final intuitive truth in love and procreation, which Socrates puts into Diotima's mouth. In this connection every layman is strongly advised to read Rudolf Kassner's German version of these immortal masterpieces published by Diederich. This translation, in spite of some serious violence to the original, is so vivid and excellent in its literary style that it is more likely to inspire love and understanding than all the rest.
8. THE RISE OF LATER ÆSTHETICISM, 1886, p. 357. Stein was unaware of the actual existence of a type "Dionysopla'o" and its wide dissemination; what interested him was the paradox that a drunken Dionysus could have been taken for an image of Plato; now, however, Egyptian records of

the Emperor Hadrian's time have shown that the Διονυσόπλατων was a well-known statue, based on a widely prevalent conception (cf. Supplement to the MUNICH ALLGEMEINE ZEITUNG of 26.ii.1903).

9. More upon this point towards the final lecture's close.

10. Cf. Eucken, HISTORY OF PHILOSOPHICAL TERMINOLOGY, 1879, p. 16 *et seq.*

11. LETTERS ON THE FURTHERANCE OF HUMANITY, No. 79; according to the original form which was afterwards altered by Herder (COLLECTED WORKS, Suphan edition, XVIII, 324).

12. 1804 edition, p. 193; von Hoffmann's edition, 1902, p. 410.

13. THE PHÆDRUS, 249 C and D.

14. Cf. Biedermann, GOETHE'S CONVERSATIONS, III,¹ 200, and IX, 113. (Cf. also above, preface, p. 6.)

15. Cf. POWER OF JUDGMENT, § 53 for exact text.

16. Natorp, PLATO'S DOCTRINE OF THE IDEAL, p. 370. The best verdict on Aristotle known to me is in Schopenhauer's FRAGMENTS FOR A HISTORY OF PHILOSOPHY, § 5: "The greatest perspicacity united to circumspection, power of observation, versatility and lack of profundity, may be cited as the foundations of Aristotle's intellect. His philosophic view of the world is shallow, although carried out with much acumen."

17. In Hartenstein's complete edition, 1867, VIII, 794.

18. Splendid proofs of his discrimination in delicate shades of verbal meaning occur in many works, as, for example, in the above-mentioned ESSAY ON DISEASES OF THE BRAIN (madness, silliness, stupid, dull, simple, foolish, etc.), and are particularly numerous in OBSERVATIONS ON THE FEELINGS OF THE BEAUTIFUL, etc., and in the ANTHROPOLOGY, as well as in the REFLECTIONS, published by Benno Erdmann.

19. Cf. specially PHILEBOS, 65 A, in this connection.

20. "The Good is beautiful" (LYSIS, 216 D, SYMPOSIUM, 201 B, and in many other places). In this connection also cf. the REPUBLIC, Book III.

21. METAPHYSICS, VII, 6, 1031 C, according to Bonitz.

22. Plato's "Ideal of the Good" is not a purely ethical abstraction, but this idea rather forms the central point of his metaphysics, and always increasingly so with the progress of his thought towards maturity, and denotes the final, supreme law of thought, the point from which thought, if it

can be called thought at all, "*αὐτὸς ὁ λόγος*," must originate; and yet these are metaphysical depths which cannot here be discussed. I refer the reader to Natorp, *inter alia*, pp. 183-196, although these marvellous expositions about the Good, firstly as the finally ethical, secondly as the finally logical, and thirdly as the finally cosmic principle, do not in my opinion seem to reach the absolutely lowest depths. With Plato "the Good" frequently means the same as that which we to-day would call "purposivity."

23. THOUGHTS ABOUT GOETHE, 3rd ed., p. 161.

24. "*De mundi sensibilis atque intelligibilis forma et principis*" is generally translated "about the form and the principles of the sensual and intellectual world"; I think the above version gives the true sense better.

25. LETTERS, I, 117. The detailed plan of the work referred to will be found on p. 124, and hence it is obvious that the "phenomenology" (*sic*) which certainly contained nothing but the critical analysis, was only considered to be the introductory part of the whole.

26. Cf. also my FOUNDATIONS, p. 887 *et seq.*

27. Cf. PURE REASON, 2 Preface, XXV, 9, 789, 823, 879, and REFLECTIONS, II, 40.

28. Abridged from the CHARMIDES, 169 A.

29. THEAETETOS, 184 C, D; and cf. Natorp, *inter alia*, p. 108. We read precisely the same thing in the KANSHITAKI-UPANISHAD, III, 8: "Not the form should be desired, but he who sees should be perceived; not the tone should be sought, but he who hears should be seen. (Deussen's version, p. 50.)

30. Abridged from the REPUBLIC, 529.

31. It is significant that precisely for this passage—for this thought, which could only have been expressed by this one man in the course of thousands of years—the authenticity of the SOPHIST should often have been, and still be, called in question by specialists. "Men of the most extensive learning can be very narrow-minded," says Kant.

32. "*Quæ sunt, interrogas? Propria Platonis supellex est, ideas vocat. . .*" (EPISTOLA, LVIII).

33. Vide ETHNOLOGICAL AND ETYMOLOGICAL JOURNAL, Vol. IV, pp. 403-464. The details, to which I refer above, are on p. 434 *et seq.*

34. As examples, vide the THEAETETOS, 213 E, and the SOPHIST, 235 D.

35. It may also well be that he (as e.g. PHÆDRUS, 265) conceives the "*Idea*" species as the sum total of something clearly perceived and from that first separates the "*Eidegenus*," which caused some philologists, who were but little practised in investigating Nature, to translate *Idea* with genus, and *Eidos* with species, because they failed to grasp that although, logically, species is subordinate to genus, yet that in reality, as Plato here rightly says, firstly, "all things that are scattered must be comprised within a unity," before a separation into a particular genus can be undertaken. The method which is adopted in natural research is to comprise the various species not perhaps too strictly defined, within a certain genus, and not the other way about.

36. "*Eidos*" and "*Idea*" are both derived from the word εἶδω (resp. from *eidemai* and *idein*) which have the two meanings of "to see" and "to know." This twofold meaning is inherent to the common Indo-Germanic root "*wid*," "which is probably latent from the beginning in the notion that knowledge has its origin on the sense of sight"; the original elemental quality of seeing is already very faint in the Sanskrit "*veda*" and the German "*wissen*" (to know, *to wot*), but in the Greek idiom the thought of vision predominates. Cf. Curtius, OUTLINES OF GREEK ETYMOLOGY, I¹, 82, and Kluge, ETYM. DIC. OF THE GERMAN LANGUAGE, under "*wissen*"). It is obvious how from the very beginning of things this word has a duplicate, combining and differentiative, or, in a word, a "critical," meaning.

37. 253 D. The words in square brackets are auxiliary for the elucidation of the exact and undoubted meaning, which all the united Grecian sages would fail to extract from the translations made by Schleiermacher and Hieronymus Müller.

38. The reader who is more practised in thinking is advised to read PURE REASON, 680 *et seq.*, and especially 682, with regard to the distinction between genus and species (*Eidos* and *Idea*).

39. Plato naturally anticipated this objection, and answered it in the PHÆDO, 100; according to him—and precisely in accord with Kant—we can, as a general proposition, only find that in the realm of thought of which we assume the existence.

40. The word "ἑμμετρία" (symmetry or balance) contains the idea "μέτρον," the measure of confined speech, or

poetic rhythm, a fact not to be overlooked if the full beauty of the passage is to be understood.

41. The *THEAITETOS* abridged, but literally so, from the three conjunctive passages, 157 A, 160 B, C, and 182 B. For the further comprehension of this leading idea of all critical analysis, cf. Kant's differentiation between a "defining" and a "definable" ego (*PURE REASON*, 407 *et seq.*, and I, 402).

42. Kant gives the example of the dog in *PURE REASON*, 180.

43. Plato himself never succeeded in clearly describing the idea of "appearance," yet he sometimes suggests it as "phantasia" or paraphrases it by the use of a verb, and says: "we say 'it appears'" ("φαίνεται δ λέγομεν," the *SOPHIST*, 264 B).

44. Cf. also in the *THEAITETOS*, 193 *et seq.*

45. Free, but actually accurate, paraphrastic interpretation of the *PHÆDO*, 75.

46. The reader will find a further and very beautiful passage on the general value of antinomy in critical thought in the first paragraph of the Notes II to § 57 of the *POWER OF JUDGMENT*.

47. A modern zoologist with strictly empirical leanings writes: "Different sense-organs, when questioned with regard to the same object, give . . . quite incommensurable answers. And as a matter of fact closer investigation reveals that congregation of all our phenomenal material of quite heterogeneous and quite incomparable sensations, which only acquires definition as a uniform object through apperception (the Ego)" (J. von Uexküll, *IN THE CONTEST FOR THE SOUL IN ANIMALS*, S.A. from *THE RESULTS OF PHYSIOLOGY*, part II, 1902). I do not quote this as an argument or a justification, but only as a psychological-empirical help for such as are still unpractised in critical thinking.

48. With regard to this, Paul Natorp's epoch-making book, *PLATO'S DOCTRINE OF THE IDEAL, AN INTRODUCTION TO IDEALISM*, 1903, should be compared, especially for the comprehension of Plato. This work supplies a final conclusion, because it contains the entirely satisfactory conception of the leading metaphysical idea in addition to the "actiōe" which is philologically so indispensable to the critical treatment of the subject, the idea to which everything

leads, and from which everything proceeds. It is true that the publication of this work during the time occupied by the preparation of this lecture did not induce me to alter my view, yet I feel myself at the same time so enriched by having made its acquaintance, that a mere occasional reference would not suffice to give expression to the great obligation thereby conferred on me ; on the contrary, I feel compelled to beg all who care to know Plato truly, to drink for themselves at this well of information.

49. This is the exact literal meaning of the phrase, which is purposely kept vague in the *TIMÆUS*, 52 B.

50. *LES DILEMMES DE LA MÉTAPHYSIQUE PURE* (1901) contains a novel and interesting view of the eternal anti-nominal problem by Renouvier.

51. Kant says precisely the same thing (but as is usual with him, negatively instead of positively expressed) in a letter written in 1772. "The things of the world are neither alterable nor unalterable" (*LETTERS*, I, 129).

52. I once for all remark that in the following explanations I have in general used "force" where, in accordance with the customary word employed to-day in the exact sciences, the more appropriate word would have been "energy." I have done so because experience taught me that an exotic term like "energy" scares the layman, or induces him to imagine some bogey with magical powers ; an idea expressed by a foreign term at once becomes an abstraction, whereas I strive to invest every thought with the greatest possible amount of perceptibility. And since, to the best of my knowledge, Robert Mayer never used the word "energy," and Helmholtz never saw any reason to change the title of his celebrated treatise *ON THE CONSERVATION OF FORCE* (*die Erhaltung der Kraft*) (published in 1847), but, as a matter of fact, repeated the same title in the lectures delivered in his later years, I boldly break away from the adoption of the scientific expression, the general use of which is otherwise perfectly justified. Strictly speaking, every single force is the effect and consequence of the abstract conception of energy as a constant quantity (cf. Helfenstein, *THE FORMS OF ENERGY*). Perhaps this formula may be more practical : "The human mind operates with hypothetical atoms when thinking of 'force,' but, when thinking of 'energy' (at all events as we regard it to-day), it dispenses with this assumption."

53. Newton in PRINCIPIA I, DEFINITIO 8, says : . . . *has vires (attractionem, impulsus, propensionem) non physice, sed mathematice con sidero. Unde caveat lector, ne per huiusmodi voces cogitet me speciem vel modum actionis, causamve, aut rationem physicam alicubi definire, vel centris vires vere et physice tribuere, si forte aut " centra trahere," aut " vires centrorum esse dixerō."* In OPTICS (query 31), he says : " What I call attraction may be performed by impulse or by some other means unknown to me. I use that word here to signify only in general any force by which bodies tend towards one another, whatsoever be the cause."

54. *Vide* Weybrauch's excellent publication, "The mechanics of heat in Robert Mayer's collected works, third edition revised and enlarged with historico-literary reports," 1893, p. 231 *et seq.*

55. None have done more than Robert Mayer for the advancement of modern science ; but it is eminently desirable that all professed naturalists and laymen should themselves follow the line of thought pursued by this great genius, instead of stamping their minds with an article of faith extracted from textbooks, which consists in the simultaneously mystic and materialistic dogma of the " conservation of force " ; for they would then clearly there recognise for themselves the basis of his creative thought. In this connection, Robert Mayer says in the first essay, OBSERVATIONS ON THE FORCES OF INANIMATE NATURE, 1842, that it is impossible to prove that heat is transformed into motion or motion into heat ; " he, however, prefers the hypothesis that heat is the result of motion, to the assumption of a cause without an effect and of an effect without a cause." He " prefers the assumption " ! Here is a classically clear instance of an idea as an hypothesis for the explanation of phenomena as taught by Plato and held in abhorrence by Aristotle. And the second work in this connection, ORGANIC MOTION IN ITS RELATION TO CHEMICAL CHANGES, 1845, where he wishes to convince his opponents of the impossibility of the reduction of motion to nothing when its effect becomes imperceptible, but that, on the contrary, it must necessarily have been transformed into another equal and indestructible force, Mayer " relies upon " the " law of thought " as " an absolutely conclusive " illustration ; or, therefore, the idea as the law—which, of course, is the fundamental idea of the entire Platonic philosophy ! This single example may stand for all

scientific formation. The significance of the precedent idea in Galileo's view can be just as plainly seen from several passages in his *DISCORSI*.

56. Heinrich Hertz's Introduction to the *PRINCIPLES OF MECHANICS* is here especially recommended to all who desire to descend or ascend to profounder considerations.

57. This quotation from Helmholtz occurs in the complete edition of *LECTURES AND SPEECHES*, 4th ed., I, 227. The sentence itself is explained by the addition: "All change in Nature consists in this, viz. that the force at work changes its form and place without any change taking place in its quantity. The universe is endowed with a store of working force which can neither be changed nor increased nor diminished by phenomenal transformation, and which sustains all processes of change within it." Now this is both popularly reasoned and expressed; and yet I think that we laymen might well be content with a formula which seemed sufficient for a Helmholtz.

58. Here, too, in particular, cf. Hans Driesch's little book, *BIOLOGY AS AN INDEPENDENT ELEMENTAL SCIENCE*, 1893 in which this successful zoological experimentalist shows the current notion that life is the result of physico-chemical action, to be merely an empty phrase. "But phrases are ever more handy tools than thoughts" (p. 48). That well-known physicist, Professor Tait, declares that the endeavour to trace the origin of life from matter and force is "simply unscientific" and proves that the attempt to do so either sets aside (although, perhaps, unconsciously) all the Newtonian laws of motion as being false, and thus abolishes the entire natural mechanical system, or attaches a meaning to "matter", which would render exact physical science impossible (Lecture printed in the *CONTEMPORARY REVIEW*, vol. 31, January, 1878, p. 298 *et seq.*).

59. *ORIGIN OF THE FITTEST* (1886), *THE PRIMARY FACTORS OF ORGANIC EVOLUTION* (1896).

60. The whole of the second lecture in general may here be referred to. *Vide* also my *FOUNDATIONS*, Chap. IX, sections "Science" and "Philosophy."

61. *POPULAR LECTURES ON SCIENCE*, 2nd ed., p. 225.

62. *DE L'ESPRIT*, Discours I, cap. 4.

63. Similarly Descartes in many places, e.g. *PRINCIPIA* II, § 16.

64. Jean Perrin maintains that all the definitions hitherto

made of the so greatly belauded "energy" amount to no more than the statement: *quelque chose demeure constant*, something or other persists unchanged. (TREATISE ON PHYSICAL CHEMISTRY, pt. I, THE PRINCIPIA, 1903).

65. THE PRINCIPLES OF MECHANICS (Introduction to), p. 9. This is entirely in the style of Platonic thought. Natorp (*inter alia*, p. 265) thus condenses Plato's doctrine in the PARMENIDES, "Postulation is relation."

66. Turn, for instance, to C. von Nägeli, MECHANICO-PHYSIOLOGICAL THEORY OF THE DOCTRINE OF EVOLUTION, 1884, p. 83: "The origin of the organic from the inorganic is, in its essence, not a question of experience and experiment, but a fact based upon the law of the conservation of matter and force." "Fact" as opposed to "experience" is distinctly precious in the mouth of a professional natural scientist; the much-despised monks of the Middle Ages argued precisely thus. Max Verworn, on p. 125 of the 3rd ed., 1901, of his GENERAL PHYSIOLOGY, expresses a similar view with regard to the hypothesis that life is not identical with matter; this, says he, is 'a bit of mysticism,' and with profound wisdom adds: "Knowledge and mysticism are mutually exclusive." But if the assumption that life—the most evident to us of all phenomena—is an independent idea, is "a bit of mysticism," then the assumption of the altogether undefinable ideas of "matter" and "force" must at least be "religion." To such complete incapacity for thinking and seeing our science of to-day has come! (Cf. p. 89, vol. II.)

67. It is of importance to understand clearly not only that a living being can only originate from a living being, but also that within each individual living body all the constituent parts of life—everything, therefore, which effects growth, nutrition, and the functions of life in general—are operative through the media of matter and force, but are themselves in their turn produced by definitely formed elements of life which again had their origin in identical elements. Nowhere, not even within the body itself, is there any "alchemical" transformation of inorganic into organic substance. This fact was stated at the Viennese Scientific Academy, as long ago as 6th June, 1890, by Julius Wiesner, an investigator of well-known empirical bent, who summed up the result of all exact research as follows: "There is no such thing as spontaneous generation of organised

matter from dead substance," "progressive science has disproved all assertions of such a method of origin within an organised body itself"; on the contrary, "experience teaches us that everything organic proceeds from the inorganic." Thus science, based on sound observation, hunts spontaneous generation out of its last hiding-place. (More on this point is to be found in Wiesner's *THE ELEMENTAL STRUCTURE AND GROWTH OF LIVING MATTER*, published in 1893). And, finally, one of the greatest living physicists and cosmologists, Svante Arrhenius, has recently had the sense and the courage to say, ". . . In my opinion, enquiry into the origin of the earliest form of life stands on the same level as the question as to the origin of matter. We must gradually grow accustomed to the thought that forms of life have survived through all eternity, and could not therefore have had their origin in time . . ." (*THE UMSCHAU*, or *Review*, 13.vi.1903, p. 485).

68. Besides this, there are a few specialists—not, of course, taken very seriously by serious devotees of science—who are just now busying themselves with the *ad oculos* demonstration of the transition from crystallised forms into living organisms !
 • The sight of crystals giving birth to their "young" has been now vouchsafed unto us ; the arrival upon the scene of the "homunculus" cannot surely be now much longer delayed !

69. All possible forms of crystallisation find their exhaustive mathematical expression in the single formula of the "Bravaisian law."

70. Cf. Tschermak's *TEXTBOOK OF MINERALOGY*, § II.

71. This even holds good of the individual atoms composing the molecules. Professor Sir Oliver Lodge upholds the view in a lecture, given by him on 5.ii.1903, that every atom of natron consists of 30,000 "electrons" so infinitesimally small that—in proportion to their size—they are as far asunder from each other as the planets from their central suns, and the central suns from each other. "Our atomic science grows more like astronomy from day to day," says this learned electro-physicist ; "we begin to question whether absolute magnitude has any definite meaning at all . . . and whether the entire solar system is not itself merely an atom. . . ."

72. "The elements," says Goethe, "are to be regarded as colossal foes with whom we must do eternal battle" (*Weimar edition*, II, 12, 102).

73. Cf. especially METAPHYSIC. PRIMER NAT. SCI., III, Theorem 3. Here Kant most clearly proves that "the possibility of establishing a science of Nature rests altogether on the law of inertia (as well as that of persistence)," and that "directly one departs therefrom but a single step, one falls into Hylozoism (matter endowed with life) and so, therefore, into the death of all natural philosophy." The adepts in the doctrines of an Ernst Haeckel should reflect that their acceptance would imply nothing less than completest renunciation of all exact physical science.

74. Concerning the stern necessity for such a reduction of all ideas (platonically speaking) to uniform ideas, cf. p. 202-203 of the 1902 edition of SCIENCE AND HYPOTHESIS by one of our most eminent contemporaneous mathematicians, namely, Poincaré: "*Dans l'histoire du développement de la physique, on distingue deux tendances inverses . . . l'unité . . . et la variété. . . . Si c'est la première qui l'emporte, la science est possible.*" The entire distinction between the "variété" given by observation and the "unité," imperatively demanded by the intellect in its search for knowledge (and science), literally corresponds with Plato's discrimination and between, and correlation of, δόξα and διάνοια.

75. Particularly clear in Heinrich Hertz, who thus defines force as "the intermediary link of thought between two forms of motion" (INTRODUCTION, p. 34). It is observable that Hertz would prefer simply to say "motion" in the place of "force"; but still the idea of transformation of one form of motion into another obtrudes itself, which, therefore, is to say that motion itself is again subject to impulse, and this thought is too essential not to require another term for its interpretation.

76. More will be said on this point in the next lecture.

77. SIXTY VEDANTIC UPANISHADS, translated by Paul Deussen, p. 851. *Per contra*, Kuno Fischer's version, viz.: "The subject is not in time, but time is in him," is obviously wrong; time is a mode of knowledge, not something which can be contained in some other thing.

78. Kant probably anticipated this when he said: "The principle of life seems to be of an immaterial nature" (DREAMS, I, 1).

79. THE PRIMARY FACTORS OF ORGANIC EVOLUTION, 1896 p. 482 *et seq.* It is more probable that death is a consequence of life than that the living is a product of the non-living. (A

view and intuition thus attained by way of pure empiricism must not on any account be confused with Fechner's "All-Being" and "All-Consciousness" as some of the readers of the first edition of 1908 happened to do.)

80. And Alfred Wallace, the companion-founder of the theory of natural selection, with regard to the phenomenon of life also thinks: "There is in all this something quite beyond and apart from chemical changes. . . ." (DARWINISM, ed. 1889, p. 474 *et seq.* A pamphlet by R. Neumeister, a professor of physiological chemistry, entitled, CONSIDERATIONS OF THE ESSENTIALS OF THE PHENOMENA OF LIFE; A CONTRIBUTION TO THE IDEA OF PROTOPLASM, 1908, seems to me to deserve attention on account of the scientific profundity there displayed on the question which is here but slightly entered into. Its strictly technical polemics against the confused—and in reality almost criminally amateurish—ideas of Ostwald and Verworn are extremely gratifying. That genius, Otto Weininger, has condensed all that need here be said into one paradoxical dictum: "Chemistry can only be successfully encountered with the excrements of the living" (RACE AND CHARACTER, 2nd edition, p. 429 *et seq.*).

81. The zoologist, Prof. Rud. Burckhardt, recently spoke some words very well worth notice about the necessity of overcoming the tyranny of the cellular theory and "the erroneous generalisations of cellular phenomena" (CONTRIBUTIONS TO THE HISTORY OF SYSTEMATISED BIOLOGY, 1903, p. sec. A. Proceedings of Nat. Soc. in Basle, XVI, 393. *Vide* also NATURE ET SCIENCES NATURELLES, 1904, chap. II. by Frédéric Houssaye), 1908. In his GENERAL BIOLOGY, 1906, Oscar Hertwig says: "The term 'cell' is really misleading; a speck of protoplasm, an 'elementary organism' is all that is now left by this definition (cf. pp. 8 and 9).

82. Cf. THE PERCEPTION OF GREAT ORGANISATION IN A SMALL SPACE, 1836, and INFUSORIÆ AS COMPLETE ORGANISMS, 1838.

83. With regard to the "unicellularism" of the protozoa, the dissertations by Franz Leydig in 1864 (ON THE CONSTRUCTION OF THE ANIMAL BODY, p. 15 *et seq.*), are still very well worth reading and instructive.

84. Cf. Claus, ZOOLOGY, sixth ed., 1897, p. 235.

85. The pharynx is very beautifully illustrated in the RECORDS OF PROTIST RESEARCH, 1903, II, plate 3, fig. 6^c and 8^c

86. LECTURES ON THE THEORY OF DESCENT, 1902, I, 353:

87. *Vide*, in the above Record, II, 73 *et seq.* ON THE MORE DELICATE STRUCTURES OF THE CILIARY APPARATUS OF THE INFUSORIÆ.

88. Turning over the pages of the RECORDS OF PROTIST RESEARCH attentively will show that the explanations given above apply not only to Infusoriæ, but to all unicellular life, as soon as this is submitted to more stringent investigations. (*Vide* e.g. respecting the GREGARINÆ—hitherto regarded as the *ne plus ultra* of simplicity—ANNUAL, 1904, vol. III, No. 3, p. 340 *et seq.*).

89. Cf. especially De Bary, MYCETOZOA (*Myxomycetes*), in his book, COMPARATIVE MORPHOLOGY AND BIOLOGY OF THE FUNGI, 1884, p. 453 *et seq.* Brief descriptions are found in every botanical handbook

90. Fritz Schaudinn, recognised as the foremost investigator of unicellular organisms, who unfortunately died prematurely, says in the ZOOLOGICAL YEAR-BOOKS, SECTION, ANATOMY AND ONTOGENESIS OF ANIMALS, vol. XIII, 1899-1900, p. 281: "More recent research about protozoa has proved how greatly complicated the relations may here be, how manifold may be the differences here presented in organisms apparently closely connected (i.e. mainly by organisms similar in external appearance; what, for instance, is not comprised within the *Amœba* group!). Our astonishment constantly increases with what we perceive, the farther we penetrate into this unicellular world, as regards the differentiation and transformation which the single cell presents to our view." The UMSCHAU, or Review, of 28th March, 1908, contains reports of experiments made with infusoriæ, which show that these do not, as hitherto assumed, take their food merely mechanically, but exercise a faculty of discrimination in their nourishment. "This result of research," it is *inter alia* said, "is also to be regarded as an uncommonly important contribution to the fact that the organism of the protozoa is far more complex than hitherto supposed."

91. "To standardise the meaning of cellular-growth . . ."! Is this not mediæval scholasticism to the *n*th power? Holy St. Crispin, *ora pro nobis!*

92. Cf. also Lecture I, p. ? (58 in orig.).

93. CRITICAL ANALYSIS OF THE POWER OF JUDGMENT, p. 315. I consider Ernst Mach's contrary view (*vide* MECHANIC, ch. 5, § 1), to be mere hair-splitting; these antimetaphysicians

are all schoolmen from crown to heel, and differ from Occam and Duns Scotus only in the subjects of discussion and their appropriate terminology. It is as plain as the sun at noon that Kant does not use the word "mechanics" in its restricted technical sense, but in its more extended meaning of everything which is motion or can be interpreted as motion, or—if one must needs insist on splitting hairs—everything which is in any way capable of numerical expression.

94. Cf. the Bruno lecture, p. 368. The following explanations are complementary to what has there been said.

95. Here, in view of the confusion produced by the use of the word "complicated," it might be well to quote Goethe's remark: "The most glorious thing in the mineralogical world is the simplest, and in the organized world it is the most complex. One sees, therefore, that both worlds have quite different tendencies, and that between them there is no graduated progressive scale whatever" (CONVERSATIONS WITH ECKERMANN of 2, II, 1831).

96. Formerly "organic" and "mechanical" had an identical meaning. (cf. Eucken, ABSTRACT IDEAS OF THE PRESENT DAY, p. 156). Plato uses the term "organon" to express "sense-instrumentality" in the THEAETETOS (p. 185); in my opinion he attached no particular philosophic idea to the word.

97. The great Buffon remarks: "*C'est l'organisation qui fait proprement notre existence; la matière considérée sous ce point de vue, en est moins le sujet que l'accessoire*" (I, 426).

98. Concerning purposivity as a "transcendental principle" cf. POWER OF JUDGMENT, 361.

99. A small book by the celebrated physicist, Sir Oliver Lodge, entitled LIFE AND MATTER, was published in London a few weeks after the first edition of the present book, which in almost the same words expressed the thought here developed. In the German translation (p. 104) just published (June, 1908) it says: "The view of life which I have attempted to utter above is that it is neither matter nor energy, nor even a combined function of them both, but that it must be placed in quite another scientific category." This exact investigator, therefore, arrived at a conclusion identical with my own, and his exposition supplements my own no less than mine forms a necessary complement to his (1908).

100. Cf. ON THE POSITIONS OF LEAVES IN RELATION TO THEIR ILLUMINATION (Reports of the German Botanical

Society, 1902) and specially ON THE BIOLOGY OF LEAF-DISPOSITION (Central Journal of Biology, 1903, vol. XXIII, 209 *et seq.*, 1908. The large, comprehensive book by the natural scientist referred to, THE ENJOYMENT OF LIGHT BY PLANTS, has in the meantime appeared (1907).

101. The speech is printed in extenso in NATURE of 24.vii.1902.

102. *Vide* THE STRUCTURE OF MAN AS EVIDENCE OF HIS PAST, 3rd ed., 1902, p. 217 *et seq.*

103. I am indebted to Professor Leopold von Schroeder's lectures on OLD ARYAN RELIGION given at the University of Vienna, but which have not yet appeared in print, for this hint.

104. Cf. Maspero, LES PEUPLES DE L'ORIENT CLASSIQUE, I, 155.

105. *Vide* Teichmüller, STUDIES FOR THE HISTORY OF IDEAS, 1874, p. 63 *et seq.*, besides historical textbooks.

106. None the less, Kant elsewhere calls the usual evolutionary conception which is the modern scientific confession of faith, "the vulgar, shallow method of 'presentation'" (ON THE USE OF TELEOLOGICAL PRINCIPLES IN PHILOSOPHY, Rosenkranz edition, VI, 369).

107. SUR UN ÉCRIT ANONYME, 19.iv.1772.

108. In his excellent apologetic book, ON THE SIGNIFICANCE OF THE DARWINIAN PRINCIPLE OF NATURAL SELECTION (2nd edition, p. 227) one of the most capable and consistent champions of Darwinism, Professor Ludwig Plate, says: "The essential nature of natural selection . . . is to be seen in this, namely, that by the separation of bodies capable and incapable of survival the purpose aimed at is progress towards perfection." Literally, then, as much as to say a continuous creation of the more from the less, or of something out of nothing.

109. In this connection I point to Lessing's otherwise scarcely intelligible thought that its perfectibility is "the quality which alone renders persistence possible" (XII, 148). Of course, the first necessity of all would be the scientific determination of that which is "like" Nature and what not; we marvel to-day in childlike innocence of the baldest anthropomorphism at certain changes,—for instance, Darwin's pigeons—as at a miracle, albeit Nature herself instructs us that this means nothing to her, and although we also overlook other changes which, humanly speaking, seem to be minimal,

but which Nature herself fails to accomplish in æons of time. Thus at this hour we are entirely unable to set up anything based on scientific reasoning about persistence or alteration of living forms; the necessary preparation is lacking, and is so because we are still in the dark about the problem itself.

110. See further down.

111. Plato already had this idea of the "Oneness of Life," and says that all animals stood in a relation of mutual reciprocity (the *TIMÆUS*, 30 D *et seq.*). It may seem questionable whether this unity will find its ideal expression in the mathematical formula of a differential equation, but I am of opinion that the indispensability of such a formula will sooner or later surely lead to its discovery. What is required is something which Kant calls a "regulative" as opposed to a "constitutive" idea, that is to say, an idea which points out the way for the inquisitive mind of man to take, and thus leads him on from discovery to discovery, but not an idea which claims the substantial weight of an ascertained fact, whereby thought is irremovably nailed fast. (Cf. *PURE REASON*, 715, and *POWER OF JUDGMENT*, in many passages.)

112. Such was the impetus given by his doctrine that, even in Plato's lifetime and within his own school of thought, attempts were made at a "division into species" (*διαίρεσις εἰδῶν*, *PHIL.*, 20 C). (Cf. Natorp, *inter alia*, p. 302.)

113. In his *ORIGIN AND PRINCIPLE OF SPECIES IN NATURAL HISTORY*, p. 4, Nägeli draws attention to the fact that the earliest founders of systematisation—men like Cæsalpinus and Tournefort—laid special stress on the importance of the genus, and treated species as a secondary thing; it was only later that any need was felt for precise definition of the idea "species." The entire question of the connection between individual, species, genus, type, and so forth, and particularly as regarded the number of relative views and the degree of abstraction, could not here be even suggested, much less gone into. Should I be spared, I hope to achieve this later on in detail in a *THEORY OF LIFE*.

114. ON PHILOSOPHY IN GENERAL.

115. In his still readable *HISTORY AND JUDGMENT OF ALL ZOOLOGICAL SYSTEMS* (1811), Spix pithily names him "the cunning artist" and opines: "He brings the light of day into the whole world of natural history" (p. 92 and XVII). And Spix is very far indeed from being a follower of the system of the mighty Swede; he only speaks of his services

in determining the idea of "species." Yves Delage, too, a convinced evolutionist of our own times, refers to the incomparable merits of Linnæus, and says that not a single present-day naturalist is capable of a similar accomplishment (HÉRÉDITÉ, p. 2).

116. The most important of Linnæus' works appeared between 1735-1775.

117. Whereas, if properly put, the basic question of all systemisation would run: How comes it that, in spite of this idea of "species" being a human invention, there are constant species in Nature?

118. I would here briefly draw the reader's attention to the following connection: "species" is an abstract idea ("*l'espèce est un mot abstrait*," says Buffon, chap. l'ÂNE), whereas "form" is an empiric perception; therefore "conservation of the species" is a metaphysical thought, and "persistence of form" an idea.

119. The most recent formula runs thus: "Thus our own day has seen the solution of the great problem of how purpose can be born without the co-operation of purposive forces" (Weismann, THEORY OF DESCENT, 1902, II, 441).

120. Keen-witted David Hume asks: "I would fain know how an animal could subsist, unless its parts were so adjusted." (NATURAL RELIGION, 1st edition, p. 153).

121. The words *in italics* are printed in a different fount of type in the original.

122. *Vide* SESSION OF THE ACADEMY OF SCIENCES ON 22, III, 1830, and cf. DISCOURS SUR LES RÉVOLUTIONS DE LA SURFACE DE LA GLOBE.

123. THE FOUNDATIONS OF ZOOLOGY, 1898, p. 216. More than 10,000 species of animals alone are known from the Silurian epoch.

124. One is involuntarily reminded of Goethe's "Satyros":

"Learn how in no-thing
Confused was everything;
How the first thing surged up from no-thing
etc., etc."

125. It may perhaps be worth while to draw the reader's attention to the fact that the "fundamental biological law," so pompously blazoned forth to the wide world as Ernst Haeckel's discovery—the alleged repetition of racial history in the development of the individual—is a very old idea,

preached as an article of faith by most of the eighteenth-century natural philosophers. Bonnet uses the same word "Palingenesis" in 1768 as Gegenbaur does to-day; in this case "hereditary transmission"—namely, of thoughts—is very apparent. Erasmus Darwin, Schelling, Kielmeyer, and others express the same notion quite distinctly; Diderot at least hints at it in his *PENSÉES SUR L'INTERPRÉTATION DE LA NATURE*, ch. 58 (published in 1754), when he expounds the entire evolutionary doctrine. Meantime and independently of this enlightenment by dogma, true science was born. Karl Ernst von Baer, the founder of scientific embryology, is the discoverer of all those series of facts which that speculative intellect, Haeckel, recoined into his so-called "laws," whereas the indispensable complementary corollary of palæontological facts and ideas is almost to be placed exclusively to the credit of the greatest genius who ever devoted the whole ardour of an extraordinarily powerful intellect to the service of natural research, I mean—Louis Agassiz. Only it must be said that both these men (of whom one died only in 1876, and the other only in 1873) disputed the correctness of the phantastic deductions drawn from the facts, and were never wearied of pointing out that in addition to the monstrosity of the hypothetical assumptions, an unconscious, perhaps, but none the less complete, falsification step by step of the facts was the consequence. (Cf. here also Karl Ernst von Baer's essay, *ON THE DARWINIAN THEORY* (more than ever deserving of perusal to-day, in vol. II of his collected speeches and essays.) The layman desiring to know how Haeckel partly suppresses and partly perverts facts in his famous genealogies, is particularly advised to read sect. 7 of ch. 3 of Louis Agassiz's *DE L'ESPÈCE ET DE LA CLASSIFICATION EN ZOOLOGIE*, also published in English as *ESSAY ON CLASSIFICATION*. Not less interesting is the classical booklet by Milne Edwards (the last of the race of great zoologists, deceased 1885), *INTRODUCTION À LA ZOOLOGIE GÉNÉRALE*, chap. VI of which contains a summary of all pertinent embryological facts and exposes the frivolity with which the perversion of the truth is effected under the pressure of suggestion paralysing the reason, and forms the foundation on which the entire Haeckelian edifice rests. Karl Camillo Schneider's *HISTOLOGY*, p. 182, also supplies some interesting corrections and additions from the most recent researches.

126. A characteristic symptom of our modern intellectual

disease is the increasing tendency to relegate things to ever remoter and remoter origins. Thus, for instance, man was said to be descended from the ape; the anatomical impossibility of this is established to-day by a thousand reasons; moreover, the oldest simian skeletons known to us belong to the so-called "higher" apes, whereas the so-called "lower" apes only appear at a later period (*vide* Schwalbe in the NATURALIST CONGRESS, 1903); so now the formula is: Man is not directly descended from the ape, but both man and ape are descendants of a common ancestor unknown. And similar statements are made on every other page when we turn to Gegenbaur. We are always advised again and again to "assume an origin yet more remote." Thus it is, for instance, impossible to prove any connection between the mammalia and the reptilia; Gegenbaur, who must be better informed than any of his contemporaries, says so; but in spite of all such trifles, although they are recurrent warnings at every stage, the pretty little logical story, which makes everything so nicely "clear," is not willingly surrendered; all we need is the assumption of "primary reptilian conditions of which we have no knowledge" (*vide* I, 67). And so it goes from page to page. And all the textbooks of the present day tell the same tale. Even professed Darwinians who have managed to keep some freedom of thought, find things getting beyond them; NATURE of 30.iv.1903 contains a keen criticism on Gegenbaur with a demonstration of the contradictions in which his rage for proving the truth of evolution in and out of season, involves him, written by the zoologist, H. Gadow.—1908. The reader will find a highly interesting note by a specialist in Professor Karl Diener's essay PALÆONTOLOGY AND THE THEORY OF EVOLUTION in the "AUSTRIAN REVIEW," 1907, No. 3. "The extremely frequent uniformity of primitive characteristics with those of an advanced specialised fossilised type has two disconcerting consequences for the evolutionary doctrinaire. It compels him on the one hand to eliminate those types—which are precisely the most interesting and striking—from the ancestral line of recent formative groups, and to class them with extinct lateral branches, and on the other hand to place the departure of special formative groups from a common ancestral origin in an increasingly remote period of time. In each one of Haeckel's numerous genealogies one may observe that in the ancestry of the higher mammalia imaginary creatures almost always

take the place of direct ancestors, but that, on the other hand, those animals known in a fossilised condition, form the side branches, which become extinct, of that genealogical tree. It is most highly improbable that such genealogies should correspond with the relations actually existing in Nature."

127. *Vide* Dreyer, *PENEROPLIS, A CONTRIBUTION TO BIOLOGICAL MORPHOLOGY AND THE PROBLEM OF SPECIES*, 1898, p. 107. It is worthy of special note that a man like Dreyer, who has observed and described more than 25,000 specimens of the microscopic Radiolariae (radicipeds) and their very great variability of form, considers "the tenacious elasticity" with which every living form asserts itself to be the basic phenomenon of life (p. 119). It was the same with Louis Agassiz, who undertook the task of carefully comparing 27,000 specimens of a snail singly, with the result that no two individuals out of the whole number were exactly alike, but also with the further undoubted result that the Linnæan conception of the "species" was absolutely justified (*DE L'ESPÈCE*, p. 380). But, to prevent misconception, it must here be said that the question of permanent change of form and the transformation of the so-called Linnæan "species" remains an open one, although the nonsensical dogmas of the theorists on natural selection and descent may once for all be rejected. In this work I could not as much as even hint at my own views.

128. Cf. e.g. Johannes Ranke's *MAN*, 2nd ed., II, from p. 471 to p. 483. Broca also says of certain races of the stone age: "they had in some of their traits attained the loftiest and noblest stages of human development" (quoted in *ANTHROPOLOGICAL ARCHIVES*, 1904, I, No. 4, p. 185). In this connection it is not perhaps quite uninteresting to state that Cuvier and Agassiz both had unusually large skulls and strikingly intellectual features, whereas neither Lamarck nor Darwin were above the average in these respects.

129. An excellent compilation of passages pertinent hereto is to be found in Auffahrt's *THE PLATONIC IDEAL THEORY*, 1883, p. 35 *et seq.*

130. In addition cf. the *THEAITETOS*, 182 *et seq.*, and the *TIMÆUS*, 27 *et seq.*

131. In addition cf. *PURE REASON*, 266 *et seq.*, where Kant proves that without the idea of "the persistent" there can be no idea of time or even of change. "Only that which is permanent is subject to change."

132. *Vide* the illustration given by Heinrich Hertz, p. 133.

133. In one passage Darwin refers to this, but, unfortunately, had never read Buffon himself, and always quotes him at second hand, or otherwise he would probably have hesitated at drawing some of the conclusions arrived at.

134. This passage is in AMOEN. ACAD., VI, 296 (1763): "*Suspicio est, quam diu fovi neque jam pro veritate indubia venditare audeo; sed per modum hypotheseos propono: quod scilicet omnes species ejusdem generis ab initio unam constituerit speciem . . .*" (quoted from Von Baer, SPEECHES, II, 256, note, where the passage is given in full). Additional appropriate passages occur in Leydig's HORÆ ZOOLOGICÆ, 1902, p. 219 *et seq.* Thus, for instance, Linnæus says of two kinds of "pheasant-eye narcissus," which are still considered separate species, "*una ex altera orta.*"—1908. I can now refer to my contribution to the Viennese Festival Souvenir, GOETHE, LINNÆUS, AND THE EXACT SCIENCE OF NATURE (*vide* in particular p. 233 *et seq.*).

135. THE SLOTHS. Plato also believes in "infinite periods of time" with infinite changes of form (*vide* LAWS, 676, and cf. with passage above quoted).

136. In particular *vide* Wolff's experiments regarding the regeneration of the ophthalmic lens, and also cf. K. C. Schneider's VITALISM, p. 18.

137. All the types extant to-day are present in the palæolithic formations (vertebrates included); all that are wanting are the simplest, or, as one habitually says, the "lowest" forms, but these are not calculated for conservation in this way, so that nothing can be deduced from their absence; neither have other types of construction than those now extant been found.

138. Persistence from the earliest ages down to the present holds good not only of the few shells constantly quoted, such as *Lingula*, *Terebratula*, etc.—but of an ever-increasing number of newly discovered animals with an exceedingly complex anatomy. The persistence of the said species of shells is, indeed, all the more remarkable, because it is precisely this species of shells which change their form with extraordinary rapidity owing to the inconsiderable variations in the amount of salt, carbonic acid, lime, and the other components of salt water, so that it might almost be fair to assume that the palæozoic ocean was identical in composition with that of to-day; yet the persistence of more complex forms of life is

of greater interest. Thus, for instance, we find many varieties of scorpions in the Silurian, and in the Carboniferous period there are numerous varieties of Arachnidæ. According to an account given by Prof. Anton Fritsch at the Session of the Viennese Academy held on 7.xii.1903, 63 species of Arachnidæ from palæozoic strata are known to-day, belonging to 38 genera and 11 different families. In the year 1900, I saw in the South Kensington Museum in London, a recently discovered Sierra Leonian spider, *Cryptostemma afzelii*, which, in the opinion of experts, is almost quite identical with a specimen, *Poliochera punctata*, from the coal strata of North America. Those who have any idea of the vast internal complexity of these animals, which possess a completely developed nervous system and extremely differentiated sex organs—especially in view of the ideas prevalent to-day—must necessarily be greatly surprised to find such an organised form as this persisting unchanged through the incalculable ages which separate us from the Carboniferous periods. If, however, it has not been persistent, but is of recent origin, this one fact completely shatters every evolutionary hypothesis, because, obviously, no degree of similarity can justify the deduction of consanguinity.

• 139. The layman with a thirst for knowledge will find an excellent illustration in Fleischmann's ZOOLOGICAL TEXTBOOK, 1898, Plate III.

140. Turning to whatsoever book we may on zoological anatomy, though couched in the most materialistic terminology, we always come upon the expression "idea" (*Gedanke*) or its paraphrase as "type," "constructive plan," and so on. "Typus" is borrowed from the Greek and signifies "model" or pattern ("the type," says Goethe, "is the secret and unattainable pattern"). "Plan" is French, and means "diagram or sketch." In both words, therefore, there is an implication of a sharpened, carefully combined, process of thought, although the foreign words may in some degree cause the basic fact of thought to escape the inattentive.

141. "On my theory, unity of type is explained by unity of descent." (ORIGIN OF SPECIES, VI, last paragraph). "Conviction of a common organic descent has become the generally accepted starting-point for speculative research" (Hugo de Vries, THE THEORY OF MUTATION, 1903, II, 664). It can be proved that if the adherents of the evolution

theory allowed this dogma to be doubted—a dogma by whose side all the articles of faith of the Roman church taken together are but child's play—the entire Tower of Babel of historic descent would collapse; because, once admitting a plurality of original germs, the immediate consequence, owing to the paucity of existing prototypes, is that community of origin cannot be deduced from similarity of organisation. That pioneer in botany, Joh. von Hanstein, made some excellent observations on this point twenty years ago, on p. 303 *et seq.* of his little work PROTOPLASM, and Goethe's true instinct also rejected all such assumptions, because Nature always shows herself to be generous and even wasteful; even the human race, he says, is certainly not of common uniform origin (CONVERSATION of 6.x.1828).—1908. Cf. also Hermann Friedmann, THE CONVERGENCE OF ORGANISMS, 1904, and F. Reinke, THE PHILOSOPHY OF BOTANY, p. 166, etc., for the development of kindred types through “convergence” and not from a uniform origin.

142. The corresponding Greek word “*episteme*” is also derived from *sta*=to stand.

143. Cf. Lecture II, p. 101 hereon.

144. *Vide* REPUBLIC, 525 B and C, 527 B and D.E.

145. Hereon cf. especially Whitehead, UNIVERSAL ALGEBRA; 1891: “Mathematics in its widest signification is the development of all types of formal, necessary, deductive reasoning. . . . The ideal of mathematics should be to erect a calculus to facilitate reasoning in connection with every province of thought or external experience, in which the succession of thoughts or events can be definitely ascertained and precisely stated. So that all serious thought which is not philosophy or inductive reasoning or imaginative literature, shall be mathematics developed by means of a calculus. . . . Such Algebras are mathematical sciences, which are essentially concerned with number or quantity . . .” (pp. vi-viii).

146. The brochure by Th. Zeiher, THE BRAIN AND SPIRITUAL LIFE, p. 5 *et seq.*, contains an interesting historical survey of the various theories of the ancients.

147. MECHANISM AND VITALISM, 1902, p. 14.

148. Cf. the statement on p. 153.

149. Aristotle bears witness that Plato assigned “the intermediate place” to mathematics (cf. Cohen, PLATO'S IDPAL DOCTRINE AND MATHEMATICS, 1879, p. 7).

* 150. The most important passages bearing on Plato's schematic construction (in a connected exposition) occur at the close of Book VI of the *REPUBLIC* and the *TIMÆUS*, 51 D *et seq.* The technical expressions are partly divergent, but as the table below shows, correspond precisely in their division.

<i>Republic.</i>	<i>Timæus.</i>
4. νόησις.	4. νόησις.
3. διάνοια.	3. λόγος.
2. πίστις.	2. δόξα.
1. εἰκασία.	1. αἰσθησις.

"εἰκασία" is a somewhat clearer sensual perception than "αἰσθησις," whereas with Plato "πίστις" always rather signifies the scientific edifice based on hypothesis than "δόξα," which is often absorbed in "dianoia." The latter expresses the pure mathematical constituents of reason, whereas "Logos" rather conveys the general conformability of all intellectual ideas. The development of the same schematic idea in *PHILEBOS* (23 and 27) is very remarkable, but not more so from the subjectively intuitive and critical, than from the objectively intuitive and critical point of view, and this results in the following series :

4. αἰτία—ideas as the cause.
3. πέρας—that which defines.
2. σύμμιξις—the mingling of the limitative with the unlimited.
1. ἄπειρον—Infinity.

Regarded from the pure logical standpoint, so frequently preferred by Kant, the series would possibly be :

4. "Original and creative reason."
- 3. The idea.
2. Judgment.
1. Phenomenon.

151. SPACCIO (Preface to).

152. DE LA CAUSA, PRINCIPIO ET UNO, Dialogue 5.

153. It is obvious that Plato only speaks allegorically in the *TIMÆUS* in order to lay greater stress on the "organistic" side of the dynamic conception of Nature as opposed to the idea of atomism. This differs essentially from what Kant in this respect says of the Cosmos, namely, that it

" must be regarded as an organic body of the very highest rank and kind " (TRANSITION, etc., III, p. 85) ; for the present question is one of transcendent (not transcendental) speculations and an ordinance of abstract reason, not therefore of knowledge and science (cf. also POWER OF JUDGMENT, § 75).

154. *Inter alia*, p. v.

155. Cf. the SOPHIST, 250 B on the " third " : *τρίτον ἄρα τι παρὰ ταῦτα τὸ ὄν τῇ ψυχῇ τιθέν* . . .

156. ON A RECENT ELEVATION OF TONE, etc. (Rosenkranz edition, I, 686 ; Hartenstein edition, 1867, VI, 477).

157. Cf. e.g. POWER OF JUDGMENT, § 91, p. 457 *et seq.*, and 462.

158. SPECIAL CONSIDERATIONS AND APHORISMS ABOUT NATURAL SCIENCE IN GENERAL. Weimar edition, II, 131.

NOTES TO KANT

1. CRITIQUE OF POWER OF JUDGMENT, Introduction, II, p. xix. Cf. also p. liii.

2. Thus, for instance, Leo XIII, in the Encyclical DE STUDIIS SCRIPTURÆ SACRÆ of the year 1893, and in a hundred other places at all times.

3. *Vide* e.g. ETHICA, IV (Preface to).

4. ETHICA, I, prop. 15 and 18: "*omnia quæ sunt per Deum concipi debent.*"

5. That is to say, it is the objective result to which the theoretic and the practical reason subjectively correspond; *vide supra*.

6. For the extended definition of the idea "fact" *vide* POWER OF JUDGMENT, § 91, p. 456.

7. Kant's definition of "consciousness": "Consciousness is the sole thing which turns phenomena into ideas" (PURE REASON, I, 350).

8. *Vide* e.g. PURE REASON, p. 564.

9. SEVEN SMALL ESSAYS, Rosencranz and Schubert edition, IX¹, 269; Hartenstein edition, 1867, IV, 505.

10. *Vide* e.g. LETTERS, I, 255, 316, 323.

11. ON NATURAL SCIENCE IN GENERAL, Weimar edition, part II, XI, 161.

12. This subject has already been taken into consideration from a more external point of view in the previous lecture (*vide* vol. I, p. 390).

13. •TRANSITION, etc., III, 393. The unabridged passage is: "Transcendental philosophy is the science of forms whereby to constitute oneself into a synthetic unity, made up of philosophy and thoughts" (with the variation "to make oneself the object according to a principle").

14. Here the word "accidental" is beyond all price!

15. LETTRES, I, 157.

16. PARERGA, I, *Fragments for a History of Philosophy*, § 3.

17. Repeated in both volumes of his principal work and in the *PARERGA*.

18. In addition, interesting explanations are to be found in Classen, Stadler, Cohen, and other authors. Cohen passed a severe sentence on chap. X, in particular in his book, *KANT'S THEORY OF EXPERIENCE*, with the heading, "Schopenhauer's objections to transcendental deduction," and concludes with the following words, which should be laid to heart: "In view of the esteem in which Schopenhauer is held, as being thoroughly conversant with, and an adherent of, the Kantian philosophy, I have considered it incumbent on me to go through his analysis of it seriatim; so that the persuasive assurance with which those unfounded judgments are given forth may at first become suspect, and then, by exacter comparison of that heart-searching instruction, recognised for what it really is, namely, mere obstinate wrangling about words of whose inner meaning their judge had not so much as an inkling."—1908. To my regret I had not learnt of the existence of that meritorious brochure, *SCHOPENHAUER'S RELATION TO KANT*, by Raoul Richter, 1893.

19. *COMPLETE WORKS*: Frauenstädt's edition, II, 510; Griesenbach's ed., I, 551. Schopenhauer deserves honourable mention for once writing down this truth: "Kant was endowed with a degree of clear and altogether individual circumspection such as has been granted to no other mortal besides" (*ON "UNIVERSITY" PHILOSOPHY*). But it remains an eternal puzzle how this statement is to be reconciled with the repeated assertions of "an incredible lack of reflective capacity."

20. *MEMORABILIA*, p. 671.

21. *LETTERS*, I, 317; *PURE REASON* (Preface to), 2nd ed., xxxviii.

22. It is possibly because "1788" appears on the title page that this date is the one given for the publication of the *CRITIQUE OF PURE REASON* in all the works written upon it. Yet Kant has finished the book in the last days of June, 1787, and the publisher sends out copies as early as the first days of December following. (Cf. *LETTERS*, I, 467, 483, 487).

23. For negative numbers only have their origin "through projection into space and linear conception." Whereas pure number is homologous with time, and therefore admits only of a single direction with the exclusion of possible reversion

—because it is impossible to ascend from the present into the past, and only direction into the future is admissible—I can just as well proceed in space from right to left as from left to right, and I denote the one by the sign + and the other by the sign -. (Cf. Conturat, *DE L'INFINI MATHÉMATIQUE*, 1896, p. 353 *et seq.*)

24. Kant used essentially the same argument, though much more profoundly and clearly expressed, twenty years earlier in *PURE REASON* (p. 663 *et seq.*).

25. Already a year before, in 1762, Kant had pointed out the basic idea of "synthetic judgments," which he here calls "undemonstrable judgments," and of these he says: "Human intuition is full of such undemonstrable judgments" (*ON THE FALSE SUBTLETIES OF THE FOUR SYLLOGISTIC FIGURES*, § 6, towards the end).

26. Confirmation could have been furnished from many of the earlier works; I failed to adduce it, because what was quoted sufficed for my purpose.

27. A young natural scientist and philosopher, Hermann von Kesserling, recently wrote me: "The whole of modern physical science is contained in Kant's *TRANSITION*, etc. And in the Festival Number of the *KANT STUDIES* of Feb. 12th, 1904, P. Heman makes a strong appeal for the recognition of the vast importance of these fragments which superficial historians have brought into such ill-repute.

28. Karl Vogt compared the act of thinking to a secretion, such as bile or saliva!

29. *DE DOCTA IGNORANTIA*, I, 2.

30. Hägerström, *KANT'S ETHICS*, 1903, p. 827.

31. The explanation referred to is on p. 116 *et seq.* of the illustrated, and p. 158 *et seq.* of the unillustrated edition.

32. This incongruity in Spinoza's basal assumption initially governs all the deductions supposed to be its consequences.

33. Letter to Goethe of 28.x.1794.

34. *QUESTION AND ANSWER*.

35. Cf. *FOUNDATIONS*, p. 730 *et seq.*

36. *Vide FOUNDATIONS*, p. 793.

37. *REPORT OF THE ARRANGEMENT OF THE LECTURES IN THE WINTER SESSION, 1765-1766*; the words in leaded text are so leaded in the original.

38. Letter to Goethe of 9.vii.1796.

39. About *PURE REASON*, the *DISSERTATION*, the *PROLEGOMENA*, the *POLEMIC AGAINST EBERHARD*, the *METAPHYSICAL*

PRIMER OF NATURAL SCIENCE, the (uncompleted) TRANSITION FROM METAPHYSICS TO PHYSICS ; about PRACTICAL REASON, the PRIMER FOR ETHICAL METAPHYSICS, the PRIMER FOR JURISPRUDENCE, and for the DOCTRINE OF VIRTUE, and the work on GOD, THE WORLD, AND MAN, known only from sketches for it ; about the POWER OF JUDGMENT, the works ON THE USE OF TELEOLOGICAL PRINCIPLES, ON PHILOSOPHY IN GENERAL, and—as more indirectly pertinent—several others.

40. Kant's German rendering of *analytical* and *synthetical* (*vide* PURE REASON, II).

41. This fact is made very characteristically clear in a definition of experience found in the posthumous papers : "Experience is the continuous approximation of the sum total of empiric consciousness." (TRANSITION, etc., III, 605).

42. Cf. Plato lecture, p. 20.

Our anti-metaphysical empiricists have of late taken to praising an old idea currently known amongst the schoolmen as "*lex parsimoniæ naturæ*" as a new discovery under various names. A shoddy idea, indeed ! And this "economy of thought," of which Avenarius, Mach, and others make such a fuss to-day, seems to me not, perhaps, an altogether wrong, but a superficial and very "economic" idea ; it is scholasticism, not Nature. And, moreover, Kant had already disposed of this obvious construction (*vide* PURE REASON, 681).

43. I here enter my *caveat* against possible misunderstanding, and refer to Heinrich Hertz : "We are neither justified in demanding simplicity *a priori* from Nature, nor in judging of what, in our interpretation of her, may be simple. But we can prescribe the images we form of her, inasmuch as these are our own individual creations" (PRINCIPLES OF MECHANICS, introduction, p. 28). Yet it is not, however, a question of what we may demand, but of what we find ; Hertz had the abstract assumptions of mathematical physicists in his mind ; but both the investigator and the poet simultaneously see both exuberance and simplicity as the leading principles in the "style" of Nature which is visible to the bodily eye.

44. DISCOURS DE RÉCEPTION À L'ACADÉMIE FRANÇAISE.

45. DIARIES, unabridged edition, III, 112.

46. TRANSITION, etc., III, 405. The subject matter of the

text is mathematics and philosophy, which conjointly make up the possibility of an exact mechanical science of Nature in the Newtonian sense, in so far as they are reciprocally conditional—one as the abstract idea of pure perception, the other as the abstract idea of pure thought; yet what has been said is applicable without any limitation. (I have amended the erroneous singular “makes up” to “make up”). Kant on the previous side of the same sheet says: “I entered upon my 79th year on 22nd of April”; so that this important formula can with certainty be dated as having been made between 22nd of April, 1802, and 22nd April, 1803.

47. Cf. previous lecture.

48. *Vide* Perrin, *TRAITÉ DE CHIMIE PHYSIQUE*, I, 179.

49. In *PURE REASON*, p. 370, we read as follows: “The transcendental idealist *can* be . . . an empiric realist, and, as he is called, a dualist”; then on p. 371: “Therefore the transcendental idealist *is* an empiric realist . . .” consequently the above phrase is a literally exact expression of Kantian thought.

50. *GENERAL HISTORY OF PHILOSOPHY*, I¹, 3.

51. The aspect of the matter remains unchanged in spite of the fact that the same man who teaches us (2 A, p. 377, of his *SYSTEM*): “There is absolutely nothing outside or inside a human being which he can fully and completely (!) call his own except his Will,” also assures us in his *PHYSIOLOGICAL PSYCHOLOGY* that “abstract Will” is “a mere term,” and “on being submitted to critical analysis dissolves in nothingness.” Is then “gravitation” anything but a word, a symbol? Is it intended to be anything else? Does not Newton expressly protect himself against every materialist interpretation of the term (*vide* vol. II, p. 282), and does the word, therefore, convey no meaning?

• 52. *RÉFLEXIONS SUR LA MÉTAPHYSIQUE DU CALCUL INFINITESIMAL*, 4th ed., p. 27.

53. Kant raised an energetic protest in advance against a “Philosophy of the Unknown.” He concludes a lengthy exposition with these words: “Therefore the idea that any being can spontaneously operate purposively, yet without a purpose or aim implied in itself or its cause, is altogether imaginary and vain, that is to say, devoid of any foundation in an existing object to which such an idea can correspond” (*ON THE USE OF TELEOLOGICAL PRINCIPLES*).

54. Cf. in particular *PURE REASON*, I, 118 *et seq.* § II

expresses, but still more strongly, exactly the same, because Kant was rightly careful to try and avoid entering the region of psychology, as now and again he happened to do in § I.

55. Cf. LA SCIENCE ET L'HYPOTHÈSE, 1902, pp. 207 and 197.

56. Many passages in the CRITIQUE OF PURE REASON, but I, p. 706 *et seq.*, in particular.

57. PURE REASON in several passages, but specially I, 126 *et seq.*

58. Briefly summarised, these judgments of the understanding on which all exact science is based are: (1) all perceptions are extensive magnitudes; (2) all sensations are intensive magnitudes; (3) potential experience consists in the idea formed by means of a necessary connotation of perceptions.

59. One of the great services rendered by Hermann Cohen is the incontestable demonstration of the genesis of the tables of categories. On the categories themselves, cf. the third lecture, p. 252.

60. The word "Nature" is here used in the wider sense of an all-embracing "universe" and as it has been used in our diagram, where it is opposed in thought to the idea of the "Ego" as all-embracing reason (*vide* third lecture, p. 268). But "Nature," as has just been shown, may signify the material as opposed to the logical, or—and this is by no means the same thing—"Nature" may be an idea of the theoretical reason, an abstraction of all laws as opposed to "freedom of the will." None but pedants can rail against this interchange of certain terms, for not only has it a base in history, but the one meaning is fused or incorporated with another; the word in this way—as before remarked—becomes an organ or instrument; it moves and carries us along with it. The same may be said of the word "reason." Reason, if it comprises theoretical and practical reason, is an idea transcendently opposed to the idea "universe"; it then embraces all things, it becomes the Platonic "Noesis," the begetter of science and religion. But in the CRITIQUE OF PURE REASON, the subject matter treated is almost always theoretical reason in the more particular sense, and here the essential relation is altered. Here reason sometimes denotes the idea of the inclusively "rational" (or pure thought) contrasted with the "empiric" (PURE REASON, e.g. 863), and, consequently, comprises not

only the understanding, but at times also the formal part of sensuality, but more frequently "reason" signifies the opposite to that complex unity, "mentality—sensuality"; this is the meaning which must be assumed throughout in this work, except where other definitions are expressly given; sometimes, however, sensuality momentarily drops out of view, and the only remaining question is the distinction between the understanding which forms abstractions and the reason which creates ideas. He who—like too many so-called "learned" men—only looks at the life-work of a Kant now and then may, of course, be easily misled by such things as these; but he who saturates himself with it will soon acquire the wisdom of not degrading the word to an algebraic sign—a proceeding which seems to be Professor Mach's ideal—but even of preserving its meaning as a plastic living reality in an organic connection with its entire contextual surroundings.

61. Kant further says, in § 91 of POWER OF JUDGMENT: "God, freedom of the will, and the immortality of the soul are those problems whose solution is the final and sole aim of the entire armoury of metaphysics."

62. THE ONLY POSSIBLE REASON FOR PROVING THE EXISTENCE OF GOD (Preface to).

63. Here I naturally had only to allude quite generally to the distinction between "metaphysical" and "transcendental." Attempted closer exposition would only have led to the most subtle processes of Kantian thought, especially in so far as Kant, in discussing the fundamental considerations about the *a priori* method, also discriminates between the pure formal "transcendental" and the "metaphysical" disquisitions, which latter rather regard the content of thought. I must refer the reader to Cohen as the best guide for the explanation of these intricate relations. Cohen also admits that Kant's presentation "suffers from the fundamental defect" of not "surely and thoroughly" sifting out the transcendental and the metaphysical separately (cf. KANT'S ESTABLISHMENT OF AN ETHICAL SYSTEM, 1877, p. 24 *et seq.*, and KANT'S THEORY OF EXPERIENCE, 1885, p. 253 *et seq.*, as well as 74, 99 *et seq.*, 368, 583, etc.

64. Vide e.g. Prof. Wenzel Hofman's very interesting brochure MOTION AND INERTIA, Vienna, 1904.

65. LA SCIENCE ET L'HYPOTHÈSE, 1902, p. 141.

66. Cf. the whole of the Leonardo lecture.

67. THE WORLD AS WILL AND PHENOMENON, II, ch. 46.

68. ON PHILOSOPHY IN GENERAL, penultimate section.

69. Justice can only be done to Wundt's great achievements by getting rid of the false impression conveyed in the title of his principal work ; for in reality it does not deal with that monstrosity of thought "physiological psychology," but with "psychological physiology," that is to say, scientifically anatomical physiology, which gives appropriate and due weights to all phenomena of the alleged soul in the form of a continuous commentary.

70. PRUSSIAN YEARBOOKS, February, 1904, p. 354.

71. CONCERNING A DISCOVERY BY WHICH ALL FRESH ANALYSIS OF THE REASONING FACULTY MAY BE DISPENSED WITH BY THE USE OF AN OLDER ONE, § I.

72. Haberlandt, SENSE-ORGANS IN THE VEGETABLE KINGDOM, 1901.

73. ANNALES, 1812; tome XIX, p. 76. It is common knowledge that the relations of the nervous system form the basis of his celebrated classification.

74. It is everywhere stated that Descartes declared that the pineal gland was the seat of the soul. It were high time to put one's heel also on this confusion, engendered by superficial, lazy, and stupid pygmies, which has been hawked about for centuries. Descartes is so far from declaring the pineal gland to be "the seat of the soul" that he distinctly says : "*Il est besoin de savoir que l'âme est véritablement jointe à tout le corps, et qu'on ne peut pas proprement dire qu'elle soit en quelqu'une de ses parties à l'exclusion des autres*" (LES PASSIONS DE L'ÂME, art. XXX). That ought to be sufficiently plain. In articles 31, 32, and 34, Descartes certainly develops the hypothesis that as the pineal gland is the only unpaired cerebral organ, it probably performs the particular function of creating uniformity, so that, perhaps (*il me semble*), the soul "*exerce ses fonctions plus particulièrement que dans les autres parties.*"

75. Vide PSYCHO-PHYSIOLOGICAL STUDIES OF THE PROTISTS, 1889.

76. J. v. Mexküll IN THE CONTEST FOR THE ANIMAL-SOUL, 1902, p. 24.

77. Vide the Leonardo lecture, p. 139.

78. "Weimar edition," 2nd sect., II, 162. The continuation of this significant dictum runs : "We are doubly 'between the devil and the deep sea.' Either we must

grant the object a plus quantity and forego our own subjective plus, or we must increase the subject by a plus and not take this into account." This one saying sufficiently proves how far from Spinoza and how near to Kant Goethe really was.

79. I must note that Kant recognises and highly esteems a "rational psychology" as being a means of exact discipline as soon as it relinquishes the brain-sick idea based on philosophic ignorance of founding a systematic and critico-analytic philosophy, and arrives at the perception that, quite conversely, it must itself be based on the critical analysis of intuition. For, as Kant remarks, it is ridiculous to believe that anything whatever can be decided as to the origin of experience before it has been settled in what experience consists. What would astronomy be without an antecedent theory of the laws of motion? But if we are in possession of a critical analysis and transcendental system of reason, then psychology may indeed be of some use, because "it can then search for the constituent elements, if not the principle of its potentiality, yet for the occasional causes of its procreation in experience itself" (cf. PROLEGOMENA, § 21a, and PURE REASON, § 13, p. 116 *et seq.* The little book by Paul Natorp, INTRODUCTION TO PSYCHOLOGY BY THE CRITICAL METHOD, published by Mohr, at Freiburg, 1888, is an excellent preliminary to the study of psychology so understood, and is herewith strongly recommended to the reader.

80. Every syllable of Kant's deserves careful attention, and I therefore here give the closer definition of the term "in Nature." If "substance" is to be no more than a loose term for chaos, for Plato's $\mu\eta\delta\acute{\nu}$, then its existence outside my own thought may be affirmed; but if "substance" means a constituent part of a uniform universe, then its existence must be denied, for Nature is an idea of the reason, a regulative, constructive idea.

81. The fine fellow who challenged us to lay ourselves across the rails didn't for a moment think that thoughts could be so hard, and objects so soft!

82. As far as it is intended to affect Kant, among many passages sufficient to refute the constantly recurrent and stupid assertion, it needs only this one from p. 663 *et seq.* of PURE REASON, viz.: "The principle of deducing a cause from that which happens . . . as an effect of that cause is a principle of the intuitive perception of Nature, not, however,

based on speculation . . . the idea of a cause loses all meaning when used merely speculatively, and no less so than this is the case with the accidental, whose objective reality could be intellectualised *in concreto*."

83. *Vide ante omnia* Jean Perrin, TRAITÉ DE CHIMIE PHYSIQUE, I, 1903, p. xiii et 108 et seq.

84. PARERGA, On Philosophy, § 30.

85. Cf. PURE REASON, 42 and elsewhere (especially 751). Kant—who in this respect always did too little rather than too much—developed this extremely subtle distinction, scarcely touched upon in his principal works, more fully towards the close of the first section of the polemical pamphlet CONCERNING A DISCOVERY, etc. Schopenhauer pays so little attention to the exact text in Kant as frequently to omit words when quoting him and, indeed, important words which he alone considers immaterial, and thus creates unintentionally false impressions. Every reader of Schopenhauer's criticism of Kantian philosophy is earnestly advised to submit all the references to word-for-word comparison with the original text.

86. *Vide* in particular the beginning of ch. I, vol. II, of THE WORLD AS WILL AND PHENOMENON. Here almost, every sentence, almost every word, is a challenge thrown to the critical, formal, systematic Platonic and Kantian idealist in favour of a dogmatic philosophy which is a combination of materialism and mysticism.

87. Regarding the idea of "law" *vide* especially PURE REASON, I, 126 et seq.

88. A good expression which Mach once employs (*v.* p. 472).

89. Considered thus, Plato's meaning in making space = substance (*Timæus*) is made clear.

90. Cf. many other passages, and in particular § 24 of PURE REASON.

91. For further explanations cf. p. 206 et seq.

92. The Schopenhauerian "Will" as the thing *per se* and "root of the intellect" stands exactly here.

93. This idea, which is so very important for the Kantian system, is developed with particular clearness in PURE REASON, 522 et seq.

94. The technical term "transcendental subject" occurs also in Kant; it denotes the negative Ego *per se*, and forms the exact counterpart to the transcendental object. Thus e.g. PURE REASON, 404, and I, 355.

95. Note on p. I of Preface to ON THE IDEA OF A SCIENTIFIC DOCTRINE. The following is textual: "A scientific doctrine might in the future decide this dispute in the direction of proving that our intuitive perception is not actually in direct relation through the medium of the idea, but perhaps indirectly through the medium of *sensation* caused by the thing in itself; that things are indeed *idealised as phenomena*, but *felt as things in themselves*." (The italicised words are italicised in the original).

96. THE WORLD AS WILL AND PHENOMENON, vol. I, § 24. "If, now, all these considerations, even *in abstracto*, result in the clear and assured perception which everyone directly obtains *in concreto*, i.e. in feeling, namely, that the essence *per se* of his own phenomenon . . . is the Will . . . etc." It is only this application of reflective thought which hinders us from regarding the phenomenon as final, but it forms the transition to the "thing in itself." The whole paragraph should be read; every word of it is a flat contradiction of all the basic ideas of critical analysis.

97. TRANSITION, etc., III, 554 and 555. In all these expressions the "thing in itself" is obviously meant to convey the same idea as the "Ego *per se*." Cf. also in PURE REASON, 430: "It is impossible to see the Noumenon in oneself, because . . ."

98. "Nature and freedom of the Will are the two hinges of the portals of philosophy." (TRANSITION, III, 418).

99. The Ego, in this sense of an entirely indefinable perception, is neither perception nor thought concept, neither phenomenon nor "thing *per se*"; neither is it, in any communicable, logically intelligible sense of the word, an "Ego," but only a something, an entity, akin as it were to an intangible element or "formless chaos," from which perception and thought proceed, a perception and a thought which immediately bifurcate into "I am" and "the world is." (Cf. hereon PURE REASON, 422, and I, 381 *et seq.* and 402).

100. PROGRESS, etc. (conclusion of No. II). The text has "Philodoxy"; yet as Kant himself translates "Philodox" with "ratiocinator" ("Vernunfts-Künstler") (v. e.g. LOGIC, introduction, iii) I felt justified in introducing the more vigorous German word (viz. "Vernunfts-Künstelei").

101. FRAGMENTS FROM THE POSTHUMOUS PAPERS (Von Hartenstein edition, 1868, VIII, 621).

102. FACTS AND COMMENTS.

103. Cf. the letter to Moses Mendelssohn of 8.iv.1766.

104. WHAT IS THE MEANING OF THOUGHT-REGULATION? (last paragraph). In this connection one of that interesting English mystic, Blake's, sayings deserves mention, viz.: "*The fool shall not enter into heaven be he ever so holy.*"

105. Cf. Spencer's AUTOBIOGRAPHY, ch. XVIII. The fact referred to above would be of but little intrinsic interest with respect to a thinker who raised ignorance to the dignity of a principle of life, and boasted of never once having had Locke's ESSAY ON THE HUMAN UNDERSTANDING in his hands; yet a beneficent destiny granted this active and sincere personality a lengthened term of life and, after he had survived his eightieth year, and the entire superb philosophic edifice in many volumes was complete, Spencer, in the repose and leisure of his closing days, at last came to see that the problem of the nature of space was not by any means futile (the consideration in question begins, "*Old people must have many reflections in common*"), and he now calls it "an ultimate question." And he now, with engaging simplicity, says: "*There is one aspect of the Great Enigma to which little attention seems given, but which has of late years more frequently impressed me; I refer to the phenomena of Space*" (!). Then he appends a few short observations on the incomprehensibility of mathematical relations to this great discovery "to which little attention seems given"; "*how does it happen that the blank form of things presents us with truths as incomprehensible as do the things it contains?*" and he goes on to speculate on the attributes of space as being qualities "innate, eternal, uncreated in its own being"; although the cosmos and its evolution must necessarily have had a beginning, there could have been no beginning of space, for space must have existed from all eternity; this spatial magnitude is "*a thought too overwhelming to be dwelt upon*"; and lastly this confession: "*Of late years the consciousness that without origin or cause infinite Space has ever existed and must ever exist, produces in me a feeling from which I shrink. . . .*" Comment would seem superfluous; but one might well express a wish that Spencer had gone on living for eighty years more, when it might probably have occurred to him that Time, too, of which he here speaks with such marvellous ingenuousness, is a problem which must be subjected to the critical analysis of its mode of perception. One seems to hear the stammering utterances of mankind in its infancy,

just beginning to think, and only most dimly conscious that the basic problem of all philosophy is the nature of intuitive perception itself. We may, however, from this example see whither dogmatic empiricism will lead us, if a thinker is sufficiently sincere and persistent to follow an empiric philosophic system consistently to the bitter end; he then, at the end of the nineteenth century, arrives at that point from which the earliest philosophers among the Hindus and Hellenes started many thousands of years ago. It is odd that it is just in the ranks of such people as these that we find such fanatical evolutionists; they themselves are but poor witnesses to the evolution of the intellect in Man. (The above quotations are from *ULTIMATE QUESTIONS* which make up the conclusion of Spencer's last book, *FACTS AND COMMENTS*, published in 1902).

106. *FRAGMENTS FROM THE POSTHUMOUS PAPERS*, Rosenzanz edition, XI, 237 *et seq.*, Hartenstein edition, 1868, VIII, 622.

107. Where this is not the case, as e.g. with that Nestor of the genuine appreciators of Kant's intellect, Hermann Cohen (Marburg), and with minds such as Stadler, Wernicke, and Hägerström, the form is so impenetrably scholastic as to meet with but little attention beyond the narrowest circles of scholastic thought. Only one non-expert, Ludwig Goldschmidt, has been for many years busily occupied in furthering a real comprehension of Kant in wider circles of people of education; Georg Simmel has recently joined the ranks with his delightful little book, *SIXTEEN LECTURES ON KANT*, 1904, and every one who honours Kant is earnestly advised to study it. And, of course, besides this Fr. A. Lange's *HISTORY OF MATERIALISM* should be a constant book of reference; in spite of the fact that much of what it contains about Kant is disputatious, this book none the less maintains its position as one of the most intellectual and instructive works in the range of German literature.

108. With my own ears I heard, no longer ago than 1903, an "ordained public" university professor announcing to a crowd of young High School boys, eager to learn, that Kant, when an old man, had lowered himself to demonstrate the abstract existence of God, freedom of the Will, and Immortality, under pressure brought to bear on him by the civil and ecclesiastical authorities, and under the lasting influence of his pietistic childhood and youthful schooldays,

"as this had been one of the duties incumbent on a professor of philosophy since the beginning of the Middle Ages." This last sentence may well show the caricature of Kantian thought gambolling in the brain of this state-installed instructor of youth, and what the riotous confusion of thought must have been in the brains of the gallant youths when the class broke up!

109. This passage occurs two pages later than the one last quoted respecting the dangers of science.

110. If without mentality and sensuality there could be such a thing as the faculty of reason, the distinction between a state of being and not-being would certainly not exist; yet Kant is not concerned with any such fantastic and unrepresentable ideas, but only with still more clearly emphasising that which in reality does exist. The idea of duty originates in the conflict between reason and inclination; this conflict is a part of our essential nature; being, or life, leads us in one direction, how we ought to be, or live (i.e. duty), in another (cf. *POWER OF JUDGMENT*, § 76).

111. Cf. the first lecture, p. 69.

112. *PURE REASON*, 377, 383, and elsewhere. Analysed subsequently most plainly of all in *POWER OF JUDGMENT*, § 57, note 1, with keener discrimination between "abstract reason" and "abstract understanding."

113. *META. PRIMER OF THE THEORY OF VIRTUE*, part II, deduction.

114. *POWER OF JUDGMENT*, note to § 29. It has, since 24th April 1870, been a dogma of the Church of Rome that God "can with certainty be recognised in the world created by Him, by the natural light of human reason" (Vatican Council, *CONSTITUTIO DOGMATICA*, *CANONES* II, 1). Kant, with regard to such hierarchical pretensions (which all confessions raise, but Rome alone clearly formulates) remarks: "This is called championing God's cause, although at bottom it may be nothing more than the cause of our overweening reason, which here overleaps its own barriers." (*ON THE FAILURE OF ALL PHILOSOPHIC ATTEMPTS AT THEODICY*).

115. *Vide* notes 50 and 51.

116. *DIALOGUES CONCERNING NATURAL RELIGION*, part IX. "Voluntary" is, of course, wrong; such ideas are so involuntary as to call for a high degree of philosophical training to recognise them as non-existent facts. One such

word as this discloses the chasm which separates a Hume from a Kant. The attempts being made to-day to place Hume—who fully merits the warm words of great esteem and admiration which Kant also repeatedly expressed as being deserved—above Kant as the critical analyst of intuitive perception belong to that deliberate plan to mislead which calls for more than merely academic repudiation.

117. This is the place for reference to the three possible kinds of Pantheism, which differ so greatly that the use of a single term often causes great confusion. 1. The idea "world" is absorbed in the idea "God," the Universe is God (as the Indo-Aryans think, where God, like a spider, has spun the world out of his own body). 2. The idea "world" absorbs the idea "God" (modern Monism). 3. The ideas "God" and "world" are fused together into one still more remote and therefore still more incomprehensible, and still more impossible, hyper-abstract idea, which cannot be done without much painful infraction of logic as well as of ethical doctrine. (Bruno and, after Bruno, Spinoza).

118. Hereon cf. the explanations on p. 358, vol. II.

119. Cf. *supra*, p. 360, vol. II. The method is ever the same—the method of all exact science—*je commence par supposer trouvée la chose cherchée*; the hypothesis must be so constructed that all it includes is intelligible. Not to grasp this, is not to have taken the first step necessary in every branch of scientific knowledge.

120. "Its" refers to "causality of freedom of the will."

121. Meaning "unless we consider our will as being free."

122. CRITICISM OF SCHULZ'S INTRODUCTORY ESSAY FOR A GENERAL SYSTEM OF HUMAN ETHICS.

123. Cf. METAPH. BASIS FOR ETHICS, § 2, I, in note to heading.

124. We observe that this theory is maintained to-day by naturalists, e.g. by the zoologist, Karl Camillo Schneider.

125. Cf. p. 296, vol. II, *sqq.*

126. ON NATURAL SCIENCE IN GENERAL, Weimar edition, 2, § II, 145.

127. According to Kant "the derivation (of morality) from a divine Supreme Will leads to a system of ethics in absolute opposition to morality" (last heading of § 2 of METAPH. BASIS OF ETHICS).

128. In another passage (almost at the close of METAPH.

BASIS OF ETHICS) it says that reasonable beings are an end in themselves.

129. In METAPHYSICAL PRIMER OF THE THEORY OF VIRTUE, § 3, Kant instead of "person" uses the term "reasonable natural being" ("*homo phenomenon*"), and he denotes "personality" by "a being endowed with inner (or spiritual?) freedom" ("*homo noumenon*").

130. PRACTICAL REASON, part I, I.B., 3rd sect. The words "in so far as it depends on the personality of the same" mean that God's will is only said by us to be holy, inasmuch as he treats with his creatures as personalities, that is to say, as self-determining, purposive beings.

131. CONCERNING PEDAGOGICS (Introduction to).

132. FRAGMENTS, etc., Hartenstein edition, 1868, VII, 662.

133. THE CONTEST OF THE FACULTIES, sect. 2, § 6.

134. Cf. my FOUNDATIONS, pp. 44, 207 *et seq.*

135. Lessing says the same thing word for word: "It is a superstition to say that historical belief is a duty, and necessary to salvation; because a belief in a mere historical statement is a belief devoid of the principle of life."

136. Cf. in particular also PURE REASON, 425 *et seq.* In this connection the little work by Alex. Wernicke, THE BASIS OF FAITH IN THE KANTIAN SYSTEM (monthly vol. of the Comenius Society, 1901, No. 3) deserves notice, although so decidedly one-sided in the stress laid upon the positive, and its depreciation of the negative.

137. METAPH. BASIS OF ETHICS, § 2, 1, heading. The words in leaded type so appear in the original.

138. That freedom of the Will is "in esse" and not "in posse" is the reason why it cannot be theoretically, ideally, and perceptibly grasped and represented. It is this intuitive perception—but imperfectly and uncritically developed in thought—which led Fichte, Schelling, Schopenhauer, and the most recent of our "Voluntarists" to formulate their doctrine of the Will as the essential constituent of the Universe.* Just as the theoretical reason makes itself objective in intangible "things" (or realities), practical reason does so in the intangible Fata Morgana of a so-called "Will." The desire to interpret the whole of the Universe from one moiety of it can never attain the wished-for aim; moreover, in this attempted solution of the problem the cart is put before the horse; for to build up a philosophic conception of the universe originating in the Will corresponds precisely to the attempt

to construct it from "things"; Schopenhauer really goes to work in quite the same way as the materialists; he is the materialist of practical reason.

139. Cf. also pp. 372, 381, with respect to God.

140. All these Kantian *dicta* are taken from the last section of the POWER OF JUDGMENT.

* 141. DE LA RÉCHERCHE DE LA VÉRITÉ, *livre 3, partie 2*, ch. 9, iv. In Malebranche the argument is directed only against the conception of God as "spirit."

142. MEISTER ECKHARDT, 99th sermon, Pfeiffer edition, p. 318 *et seq.*

143. *Inter alia*, 56th sermon.

144. RELIGION, etc., 4th St., part 2, § 3.

145. ON A RECENT ELEVATION OF TONE, etc. (1796).

146. In contrast, namely, with the pseudo-Semitic mythologies of Haeckel and Co.

147. RELIGION, 4th St., part 2, p. 329. In the THEORY OF VIRTUE (deduction) it says: "Religion is the abstract idea of all duties as being Divine commands."

148. The reader's attention is drawn to the note made by Schiller on this passage.

149. ON MAN'S ÆSTHETIC EDUCATION, 25th letter.

150. *Vide* all the early part of this lecture.

• 151. RELIGION, etc., preface to first edition, viii *et seq.*

152. Hume, DIALOGUES CONCERNING NATURAL RELIGION, part I, towards the end.

153. *Vide* RELIGION, etc., 4th St., part I, note to the first paragraph, for the exact text.

154. *Vide supra* for the distinction between person and personality, p. 402, vol. II.

155. Couturat, DE L'INFINI MATHÉMATIQUE, p. 299.

156. CHÂNDOGYA-UPANISHAD, V, 14.

• 157. Almost all of us are deprived of the freedom of our personality in our childhood; such things as, e.g. the exercises of the Jesuits have no other object than its deliberate and entire annihilation; and this is a far greater outrage on humanity than either murder or rape.

158. THE END OF ALL THINGS.

159. Cf. my FOUNDATIONS, p. 195 *et seq.*, p. 950 *et seq.*

160. POWER OF JUDGMENT, § 32.

161. RELIGION, etc., 4th St., part 2, § 2 and § 3, the latter with the glorious sub-title "OF PAPISTRY AS A TRAINING IN THE MOCK SERVICE OF THE PRINCIPLE OF GOODNESS."

162. ON THE PROVERBIAL SAYING : " ALL VERY WELL IN THEORY BUT NO GOOD IN PRACTICE," III, a brochure published , in the same year (1793) as RELIGION, etc.

163. Even now in the twentieth century, not many miles from the gates of Catholic Vienna, when " the stormy winds do blow " the peasantry offer up " food " to appease them in the shape of flour in great dishes, and similarly, on certain days in every year sacrifices are made to fire, so that it may continue its beneficent office and do no harm.

164. *Vide* Garbe, CONTRIBUTIONS TO THE HISTORY OF CIVILISATION IN INDIA, 1st essay, and Rhys Davids, BUDDHIST INDIA.

165. " Christ has brought the kingdom of God nearer to earth ; but he has been misunderstood ; and in place of God's kingdom, the kingdom of the Priest has been established in our midst " (REFLECTIONS, I, 213).

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